# *Insights for Atlanta's Airport Area Planning and Development: Case Study Research and Findings*


**Garrett Hyer, MCRP 2013**

Georgia Institute of Technology
School of City and Regional Planning
Faculty Advisor, Dr. Nancey Green Leigh

Applied Research Paper
April 2013

# Table of Contents



Cover photo courtesy of Airline World, 2007

# Introduction

Cities have always grown up at crossroads - places where travelers meet to exchange information and trade goods. City development therefore accompanied the development of a means of transport: around ports in the 18th century, around railway stations in the 19th, around motorways in the 20th and around airports in the 21st century (Kasarda, 2008).

On every continent and wherever they touch down, airports, as the gateways to the countries and regions they serve, drive economic development by being a catalyst for business growth.

Airports themselves are experiencing a business evolution and a profound change in their economic model. Going beyond their role as infrastructure managers, they are now becoming vital economic and urban operators that are drawing an ever larger part of their income and profit from real estate and commercial business on their own property. For the other stakeholders (government, local communities, private businesses, residents, etc.), this is an opportunity to benefit from new economic development. Stakeholders and airports can work together to discover how to achieve robust and sustainable growth. Some scholars have referred to this type of planning as airport city or aerotropolis planning.

The airport city is a new kind of urban economic development located where the airport meets the city - one that requires control of the former and a good understanding of the latter (Aéroports De Paris, 2012). Airport cities are generally described by most scholars as the areas in the immediate environs of, or directly connected to, the airport.

The other term, aerotropolis, is not new. In fact, it can be found in an issue of *Popular Science* magazine from the 1930's (ARC, 2013). But the concept became extremely popular around the world as the term was reintroduced by Dr. John Kasarda, Kenan Distinguished Professor of Strategy and Entrepreneurship at the University of North Carolina, in one of his of many articles, "Logistics and the Rise of the Aerotropolis" (Kasarda, 2001). Kasarda and co-author Greg Lindsay have gone on to write over a hundred articles and most recently the 2011 book, *Aerotropolis: Where We'll Live Next*. Kasarda describes an aerotropolis as an area within a 20-mile radius of a major airport (Kasarda & Lindsay, 2011).

No matter what it's called, planning for the area around a major airport and respecting the airport's role as a powerful economic engine is occurring at an increasing rate around the world. For Atlanta, this means looking at Hartsfield-Jackson Atlanta International Airport as well as metro Atlanta.

Hartsfield-Jackson Atlanta International Airport is the world's busiest airport, both by passenger traffic since 1998, and by take-offs and landings since 2005. However, much of the area around Atlanta's airport fails to leverage the airport as an economic engine, connect well to the airport or welcome visitors to a world class city and region (ARC, 2013).

The Atlanta metropolitan area consists of 28 counties in north Georgia and had a 2010 population of 5,268,860. As the capital of Georgia, metro Atlanta is the 9th largest U.S. population center with 13 FORTUNE 500 headquarters. Atlanta is among the top three distribution cities in the U.S., with 40 percent of North American manufacturing and distribution locations within 500 miles of the city. There are 57 colleges and universities, which enroll more

than 250,000 students annually, and seven technical colleges, which enroll more than 60,000 students each year. Further, metro Atlanta's $270 billion GDP is forecasted to grow to $440 billion by 2040 (Metro Atlanta Chamber, 2013).

There is no mistaking Atlanta's untapped potential to be a premier airport city and greater aerotropolis, thus the basis of this paper is to identify what the Atlanta region can learn from what others have planned and implemented.

Hartsfield-Jackson Atlanta International Airport is located south of Atlanta's downtown core. There is a significant lack of quality housing stock, class-A office space and modernized commercial amenities in this area.

While the economic value of locating near an airport with international connections has long been appreciated, the last 10 years have seen a development focus on businesses wanting to be close to the airport. It's all part of making an airport a business destination in its own right (Bates, 2011). As large corporations look for more cost effective ways to travel and do business coming out of the economic recession, more infill development around the airport can be expected compared to "leap-frog" suburban development elsewhere. This area has already recently seen the development of the Gateway center, a LEED-Silver certified hotel complex, and the relocation of Porsche's North American Headquarters to the site of the former Ford assembly plant adjacent to the airport.

Metro Atlanta has the opportunity to create an aerotropolis-like planning organization with membership that could include the airport itself, major businesses and property owners around the airport; local, regional and state elected officials and staffs; local chambers of commerce; colleges, universities and other institutions/non-profits. These stakeholders can leverage existing infrastructure and the high volumes of people, goods and services that flows through the area. By taking advantage of the proximity to the airport, the public and private sector can create more efficient high-wage business, manufacturing, cargo and logistics jobs. This includes providing for enhanced aesthetics, branding, gateways, connections and overall safety of the airport area while respecting and preserving local community culture and diversity.

This paper examines what four international and four domestic airports and their environs are doing to spur economic development. Each case study will include information on the types of planning and organizational structure taken, as well as any policies implemented. Examples given provide unique insights by which airports and the communities around them collaborated on the land use, urban design and transportation planning areas as well as the tools used to achieve desired results. The branding, marketing and economic development strategies of these areas are also explored.

This paper begins with a review of existing literature on airport-area land use development and a description of the derived problem statement and research questions.

The paper outlines the methodology of research and looks at all eight case studies, in addition to existing conditions in Atlanta. The paper concludes with recommendations and tools for Atlanta.

# Literature Review

## Brief History of Suburbanization and American Airports

Rapid suburbanization between 1950 and 1970 radically changed the spatial structure of U.S. cities, transforming them from concentrated, highly centralized agglomerations into scattered, decentralized metropolitan areas (Berry, 1973). Many residents of metropolitan regions work within the central urban area, but choose to live in satellite communities called suburbs and commute to work via automobile or mass transit. Others have taken advantage of technological advances to work from their homes. These processes often occur in advanced economies, especially in the United States, which is believed to be the first country in which the majority of the population lives in the suburbs, rather than in the cities or in rural areas. Government policies can have a significant effect on the process.

In the United States, policies of the Federal government in the post-World War II era, such as the building of an efficient network of roads, highways and superhighways, and the underwriting of mortgages for suburban one-family homes, had an influence on the pace of suburbanization. As the federal highway system simultaneously expanded from the 1950's through the 1970's, the country and its airports became suburbanized. That is, they were placed at the fringe or outside of an existing city they served. As passenger and cargo volume increased and as skyscrapers were rising, airports needed more terminal, air and runway space. Most airports either moved from the city or were built outright far outside the city's urban center (Kasarda, 2012).

The rise of efficient package express delivery systems, such as FedEx and UPS, which take advantage of computerization and the availability of an efficient air transportation system, also eliminates some of the advantages that were once to be had from having a business located in the city. In brevity, some types of businesses that formerly relied on being centralized often now rely on access to air transportation. Thus, industrial, warehousing, and factory land uses that serve consumers and businesses alike have also moved to suburban areas and near major airports. This is evident in Atlanta.

Airports have been relatively neglected in scholarly planning literature despite their historic role in shaping metropolitan form. Their transformation into major mixed-use urban nodes anchoring sub regional realms of aviation-oriented development has underscored their significance as agents of and products of globalization. The contestation of airport expansion that has made for epic political battles in diverse settings and its implications for models of airport-led urban development is noted (Freestone, 2011).

## Airport Area Threats

Airports themselves have not been seen as city centers, but mostly as barriers to forming any type of community. Exposure to excessively loud noise can cause stress on the human body. A report from the *Occupational and Environmental Medicine Journal* shows that people exposed to average aircraft noise levels of 55 decibels or higher were 60% more likely to report having been diagnosed with high blood pressure (Rosenlund, 2001). The very word "noise" itself derives from the Latin word "noxia," which means injury or hurt (Cermak, 2012). Further, an *Environmental Health Perspectives Journal* study concluded that gaseous pollutants [from jet aircraft] are significant risk factors for acute stroke death and that the elderly and women are more susceptible to the effect of particulate pollutants (Hong, 2002).

These types of threats and others have not gone by unnoticed. The Citizens Aviation Watch Association is an organization of stakeholders dedicated to protecting the health, safety and welfare of individuals and communities that are affected by the air transport industry representing member and associate organizations in 27 countries (CAWA, 2012). Threats to the population affected by airport area development must be considered when planning for these areas.

## Air Travel and Globalization Forecasts

Airline forecasts project 3.6 billion annual passengers by 2016, a 29% increase from 2011. International freight volumes will also grow at 3% per annum to total 34.5 million metric tons by 2016 (IATA, 2012). The International Air Transport Association states that the emerging markets of Asia-Pacific, Latin America and the Middle East will see the strongest passenger growth, led by routes within or connected to China. However, the IATA also states the United States will continue to be the largest single market for domestic passengers (IATA, 2012).

Globalization is also still on the rise. The Global Policy Forum states that human societies across the globe have established progressively closer contacts over many centuries, but recently the pace has dramatically increased. Jet airplanes, cheap telephone service, email and instant capital flow have made the world more interdependent than ever. Multinational corporations now manufacture products in many countries and sell to consumers around the world (GPF, 2012).

Further, according to Ernst & Young's 2012 annual globalization report, despite faltering prospects for the world economy, globalization is still increasing among a majority of the world's 60 leading economies. The report draws on two sources of original research: Ernst & Young's *Globalization Index* and a survey of 1,000 senior business executives worldwide. While Ernst & Young forecasts that global GDP growth will be just 3.4% in 2012, the index predicts that globalization will continue to substantially advance through 2015 and beyond (Ernst & Young, 2012).

Thus, the starting point for understanding the world today is not the size of its GDP or the destructive power of its weapons systems, but the fact that it is so much more joined together than before. It may look like it is made up of separate and sovereign individuals, firms, nations or cities, but the deeper reality is one of multiple connections (Mulgan, 1998). These connections are what make airports so powerful – as John Kasarda put them – the routers of our physical internet (Kasarda, 2012).

The increase in air travel forecasts combined with a continuing upward trend of business globalization is essential to understanding the importance of airports and airport related investment. The aviation industry supports some 57 million jobs and $2.2 trillion in economic activity worldwide (IATA, 2012).

## Aerotropolis Theory

The terms "aerotropolis" and "airport city", have been popularized by Dr. John Kasarda to explain how airports are much more than they used to be. He uses the term aerotropolis to recognize the fact that in addition to their traditional aviation services, major airports have developed significant non-aeronautical commercial facilities, services and revenues. They are now multi-functional urban centers. Because of this, and other changes in the global economy,

airports are extending their reach and impact well beyond traditional airport boundaries (Moore-Wilton, 2007).

The conceptual origins of the contemporary airport city phenomenon may be traced to H. McKinley Conway's 1977 book, *The Airport City and the Future Intermodal Transportation System*. Conway, the founder of *Site Selection Magazine,* described how aviation-linked commercial development would evolve at and around airports, including logistics facilities, office parks, retail complexes, and residential airparks (Kasarda, 2008).

From an airport development perspective, Shannon (Ireland) International was a precursor Airport City when it established the world's first free trade zone in the early 1960s. By offering extensive duty-free shopping, Shannon was able to capture considerable expenditures by passengers on refueling "stop-over" flights between Europe and the U.S. during the 1960s and early 1970s (Kasarda, 2008).

The local commercial draw and broader economic impact of airports was recognized by Schiphol, leading it to implement and brand its multimodal, airport-linked "Mainport" concept in the 1980s. The objective to Mainport is not only to attract business and employment to the airport and to its immediate environs but also be a major driver of the Dutch economy. Schiphol succeeded on both counts (Kasarda, 2008).

It wasn't until the 1990s, however, that contemporary Airport City principles made their way into the terminals and beyond in a significant way. One of the terminal pioneers was Pittsburgh International Airport with the opening of its BAA-managed "AirMall" in 1992, building on BAA's successful retail experience at Heathrow. By funneling virtually all passengers through a central shopping area containing higher-end brand stores, this model spawned the modern era of airport retail. With the introduction of brand shops and street pricing, retail sales per passenger tripled, encouraging airports around the world to follow suit. By the mid-1990s, most had substantially diversified and expanded their terminal retail offerings utilizing brand-name shops and street pricing. They also began to offer a variety of services to passengers, airport employees, and meters and greeters such as leisure, entertainment, and cultural venues (Kasarda, 2008).

Kasarda's work has been so influential, he is constantly in the air himself consulting with airport executives and planning agencies around the world. Aerotropolis Concepts, LLC's website summarizes much of the aerotropolis theory. It states that although airports have become key nodes in global production systems and serve as gateway anchors for the region they serve, most development to date around airports has been organic, spontaneous and haphazard. Standards proposed by Aerotropolis concepts include: special truck-only lanes on airport expressways, improved intersection infrastructure and way finding, more transit options and cluster, mixed-use development. In short, the company states that aerotropolis development and sustainable 'smart growth' can and should go hand-in-hand.

In his Foreword to *Airport Cities: The Evolution*, Kasarda states, "The Airport City has become the norm for the strategic development of gateway airports in the 21st century. Emphasizing commercial activities, both airside and landside, it is as much a business model as it is an aeronautical infrastructure model." Kasarda goes on to state that an Airport City "represents the spatial manifestation of the interaction of airport-centered commerce, real estate development,

and multi-modal transportation shaped by contemporary financial, marketing, and strategic management processes." According to Kasarda, these elements have come together to position airports as urban growth nodes.

The Schiphol Group was the first airport to actually brand itself as an Airport City in 1998. Its real estate arm, Schiphol Real Estate, continues to develop a range of properties at the airport.

In the United States, Dallas-Ft. Worth was an early entrant to airport area development. With 18,000 acres of property, DFW established a real estate division in the mid-1990s with a plan to develop 5,000 acres. In addition to a hotel connected to its international terminal, DFW created six airport commercial zones, most with distinct property mixes (Kasarda, 2008).

Asia's Airport City pioneers include Hong Kong, Kuala Lumpur, and Singapore. Kuala Lumpur International, which opened in 1998, was designed to be not only the aviation foundation but also a commercial anchor for Malaysia's Multimedia Super Corridor stretching from the city of Kuala Lumpur to the airport some 50 kilometers south of Kuala Lumpur. Its terminal layout and 10,000 surrounding hectares of palm tree fields were envisioned from the start as an airport city composed of retail, hotel, office blocks, and recreation zones (Kasarda, 2008).

The clear pioneer in the Middle East has been Dubai. The Dubai Airport Free Zone provides 1.2 million square meters containing offices, logistics and distribution facilities, and light manufacturing for over 300 companies (Kasarda, 2008).

Airport area development caught on so much that The New York Times nominated the "Aerotropolis" as one of the "Ideas of 2006" (Moore, 2007). This concept has further weathered the recession. A recent analysis of small-area employment data for the areas surrounding 25 major US airports and the related central cities reveals the concentration of employment within 2.5 miles of these airports to be substantial—approximately half that within 2.5 miles of the central point of the corresponding CBDs—and growing (Appold, 2012).

Finally, Richard Florida's recent study, *Up in the Air: The Role of Airports for Regional Economic Development*, found that airports add significantly to regional development measured as economic output per capita. Florida states that the effect of airports on regional development occurs through two channels – their capacity to move both people and cargo, with the former being somewhat more important. The study concluded that the effect of airports on regional development is roughly equivalent to that of human capital and greater than high-tech industry.

As Kasarda states in his 2001 article, *Logistics and the Rise of the Aerotropolis*, "while multiple transportation modes will continue to shape metropolitan growth, substantial evidence is accumulating that major airports are generating concentrations of commercial activities that are leading to a new aviation-linked urban form – the aerotropolis."

## Aerotropolis Theory Critique

The aerotropolis, as this hub for industry and driver of economic development has been called, has not yet been critiqued adequately, especially from a long-term public policy and planning perspective.

Michael B. Charles, Paul Barnes, Neal Ryan, Julia Clayton's 2007 article, *Airport futures: Towards a critique of the aerotropolis model*, raises concerns about three dimensions of

the aerotropolis regarding its long-term sustainability: 1) its energy provision, 2) the security of critical infrastructure and 3) export pathways. In particular, this article argues that air transport will not replace existing components of international economic development.

Charles et al. state that air travel, in its current form, relies on the relative abundance of oil, and that rising oil prices will surely impact the aerotropolis. The article states it will also affect the industries and urban environments that will have become attached to an airport. The authors point out that it is not understood whether future aircraft power sources will take the same form as those used by contemporary aircraft. Thus the current aerotropolis is an economic 'focus' based on a non-renewable resource.

Second to the critiques' theme is security concerns. The authors point out that it has become increasingly clear that commercial aircraft, critical infrastructure and important economic centers are subject to terrorist attack, in addition to natural phenomena. In particular, concerns have emerged with regard to the wisdom of concentrating critical infrastructure in one location. Yet the very concept of the aerotropolis calls for even greater geographic concentration of critical infrastructure around a central transport hub.

Third to the authors' main focus is that the aerotropolis concept presupposes that airports will become more important as commercial interest in seaports and rail hubs steadily decreases. , it also seems clear that certain items, most notably bulk commodities such as grain, minerals and livestock, in addition to assembled value-added products such as cars and tractors, will still be cheaper to transport by means of sea or rail, as will the fuel that powers modern transport aircraft. In view of this, the aerotropolis' relationship to other main ports needs to be ascertained in order to promote greater synergies between transport hubs (Charles, et al., 2007).

BJ Gleeson critiques the aerotropolis theory in his 2012 article, *On the Superannuation of Urban Studies*, as new urban literature, mostly emerging from consultants and media-savvy academics in business and economic schools. He cites Kasarda as an example being a professor of strategy and entrepreneurship and also doing consulting work. He points out that development around airports is nothing new.

While the concept of deploying land to generate revenue may not be new, it is yet to be fully seen if a renewed focus by airports and regions to work together for economic investment in the new millennium is as viable as the aerotropolis theory makes it seem to be.

## Tools for Aerotropolis Planners

Airports are multi-million dollar businesses and many have started to boost their revenue streams through the increased utilization of the airport site for a range of non-aviation related activities. This trend has led to the development of a host of new properties and facilities from hotels, offices and business parks to shopping malls and golf courses.

Tools aerotropolis planners can utilize that this research has discovered include free trade and opportunity zones; special zoning; land use inventories; market analyses; master real estate strategies; public-private partnerships; business improvement and community improvement districts; transportation management associations; livable community initiatives; technical assistance programs and tax allocation districts.

Some have "Free Trade" or "Free Economic" zones where tax exemptions and other incentives encourage international business and trade. Indeed, the list includes South Korea's Incheon International Airport, where a US led consortium is currently considering opening a new $2.5 billion casino. Elsewhere, Kuala Lumpur International Airport is home to the Sepang International Circuit that hosts Formula 1's Malaysian Grand Prix (Bates, 2011).

*Airport World* Editor, Joe Bates, reflected on the increasingly inventive ways in which airports are developing their real estate in the April 2011 issue:

> Global economic challenges and changing airline industry dynamics are intensifying financial pressure on the world's airports. One effective source of relief leverages one of the airport's most visible assets – land.
>
> While the concept of deploying land to generate revenues is not novel, a renewed focus by airports on this sometimes under-utilized, but mostly hibernating asset is particularly attractive today given funding constraints and emerging market opportunities. Leveraging an airport's real estate portfolio offers numerous benefits beyond just a new revenue source.
>
> From professional office and industrial uses to retail, restaurants and hotels, airports have historically attracted compatible land uses to their perimeters, effectively creating transitions to community neighborhoods expanding outward from the center city.
>
> Most of the commercial development has occurred external to airport lands along access corridors and airport boundaries. Now, the market's growing demand for both larger tracts and smaller key development sites closer to the airport itself affords airports the ability to generate new revenue by leveraging land assets (Bates, 2011, 36-37).

The 2011 *Airport World* article further explores steps planners and airport officials alike can take to think about land use at and around an airport.

First, they suggest conducting a portfolio review of existing land assets including an inventory of aviation and non-aviation lands to identify possible available vacant or redevelopment parcels for the marketplace. The process recognizes that airports intrinsically require adequate land for operational areas and future aviation-related growth and development. The goal in this process is to understand the relative advantages and limitations of the commercial land. An airport's locational advantages are usually balanced by restrictions placed on its lands by regulatory agencies.

Second, the article suggests thinking about how the land around an airport is unique and who would want it. Conducting a local and regional market analysis for targeted commercial uses brings into focus the market context and identifies what is possible. Analyses of the relevant trade area including prevailing market trends and local demographics will suggest what potential opportunities exist and at what value or price. The article points out that planners and airport officials must acknowledge the airport from both aviation and non-aviation aspects.

Typically, developers want to deliver proven products having financial institution support. With regard to aviation uses on airport property, an airport must clearly embrace its business model, whether primarily passenger versus cargo focused, Origination & Destination versus connecting,

business versus tourism-oriented. Each model has specific real estate implications for passenger terminals, airfields and commercial land, not only for long-term growth but more importantly the community's vision. A master real estate strategy must align with and complement an airport's master plan (Bates, 2011).

The article further suggests that given that airports have limited capital, a public-private initiative leveraging private equity may be the best balanced approach. A public-private initiative creates shared risks and control for both an airport and private developers. Airports are able to leverage outside private equity to achieve its goals and objectives for its land assets. To enter a partnership with an airport, commercial developers require, among other things, market support for the project, a defined review and approval process, minimum lease terms to meet the financing criteria of lending institutions, and predictability in future land value. (Bates, 2011).

In the not too distant past, a few drab offices and prefabricated warehouses set along the main access road were all a company could expect in terms of an airport business premises – but today it's a very different story with some airports at the cutting edge of business park planning and development (Bates, 2011).

In the same April 2011 issue of *Airport World*, Kasarda reported about special airport-related zoning regulations Taiwan has implemented to plan for future growth. In laying out the seven outside the fence areas, he writes that Taiwan planners focused on ensuring the highest and best land use leveraging through proximity to the airport as well as connectivity to the gateway and the broader region. This includes:

1. An aviation industry zone that will be geared to aerospace equipment design and manufacturing, aviation equipment repair and air logistics services;
2. An airport-related industry zone, which includes in-flight service industries, air sports and the leisure industry, car rental and parking, etc.;
3. A trade and exhibition zone with hotels, shopping, entertainment and office buildings;
4. A refined agriculture development zone;
5. A coastal recreation zone;
6. A free trade zone for automated warehouse and distribution centers; and
7. Trade centers and time critical light manufacturing

Many residential centers will also be located throughout where possible. These will be designed as sustainable living communities based on the ethos of balancing life, neighborhood, work and ecology. Aerotropolis quality living areas will also have mixed-use services, such as shopping malls, restaurants, libraries and schools. At present, the outside the fence aerotropolis zones are primarily conceptual and will be developed as economic demand and market opportunities arise (Kasarda & Lindsay, 2011).

Less holistic, yet more specific, are Business Improvement Districts (BIDs). Throughout the country and in cities such as New York, San Francisco, Cleveland and Philadelphia, BIDs have been able to maintain cleaner and safer streets, decrease storefront vacancy rates, and address social welfare issues. BIDs levy assessments on real property for specific improvements beyond which local governments can reasonably provide. They have been effective in reversing decline and promoting commercial development in urban areas.

In general, BIDs are formed following a proposal by a group of property owners in a geographically defined area to fund supplemental governmental services (e.g. cleaning and maintenance), non-governmental services (e.g. landscaping, marketing and promotion), and capital investments (e.g. sidewalk widening). The municipality in which a BID is located collects the BID's supplemental property tax assessments through its general taxation powers and distributes them to the BID. A board of directors composed of property owners, merchants, residents and public sector representatives is then given authority by the government to undertake projects and programs within the district (Warner, 2002).

In Atlanta Community Improvement Districts (CIDs) are created pursuant to the Georgia Constitution, Article IX, Section 7. A CID, like a BID, is a self-taxing district that allows property owners to proactively address solutions by investing in planning, studies, or real improvements. Utilizing "seed" money, the CID can attract money into the area from federal, state and local government sources to leverage project construction (ARC, 2012). This has been proposed as an initial way for private land owners around the Atlanta airport to be involved and have a stake in the project and outcome as any improvement would theoretically affect their property value.

Transportation Management Associations (TMAs) are organized groups of individuals or businesses created to address localized transportation issues. TMAs in the Atlanta region are non-profit organizations that were formed to facilitate the movement of people and goods in their designated service areas. TMAs help improve accessibility and mobility in and around activity centers which have often experienced rapid urban/suburban growth. TMAs assist employers by providing technical advice and assistance on commute options, and by brokering transportation services, including carpool, vanpool, and transit options (ARC, 2012). This will also be something the Atlanta airport area will want to consider when planning its future.

The Atlanta Regional Commission offers the Livable Centers Initiative (LCI). This is a program that awards planning grants on a competitive basis to local governments and nonprofit organizations to prepare plans for the enhancement of existing centers and corridors consistent with regional development policies. Once planning arms are in motion, individual communities or areas might apply and be granted assistance from an LCI consultancy board (ARC, 2012)

In addition, the Urban Land Institute's Technical Assistance Program, otherwise known as ULI TAP, brings the real estate, planning and development fields together on land use and redevelopment projects. TAPs are designed specifically to be run and implemented by District Councils, and are intentionally flexible to provide sponsoring organizations a customized approach to specific land use and real estate issues (ULI, 2012).

A Tax Allocation District is another tool that can be used. Georgia's Redevelopment Powers Law, adopted by the General Assembly in 1985, gave local governments the authority to sell bonds to finance infrastructure and other redevelopment costs within a specifically defined area (a TAD). The bonds are secured by a "tax allocation increment," which is the increase in property tax revenues resulting from the redevelopment activities taking place within the tax allocation district. Tax increment financing allows cities to charge the costs of constructing public facilities and infrastructure to be charged directly to the businesses that use them rather

than the public at large. In return, the businesses benefit from the construction of facilities that might not otherwise be available to them (GMA, 2008).

When using a TAD, a city designates a specific geographic area that has the potential for redevelopment, but which suffers from blight or other "economically or socially distressed" conditions. As public improvements and private development take place in the area, the taxable value of property in the TAD increases. The city collects the total revenues, putting the increase in revenues as a result of new development into a special fund to pay off the bonds that financed the public improvements, while the remainder goes back into the city's general fund. The TAD is dissolved when the bonds have been retired and any other public financing has been repaid (GMA, 2008).

The planning ideas and tools above are just some of the common ways to implement desired results when working together with the governments, private sector and community. This paper will look in depth at case studies of what other airport areas are currently doing and what lessons the Atlanta region can learn from them.

## Problem Statement

As previously described, the area around Atlanta's airport fails to connect to and capture the economy at the airport. In addition to leveraging passenger traffic, potential exists to create a more efficient business, cargo and logistics focus around the airport. This would create new jobs while enhancing the aesthetics, safety and infrastructure of existing nearby communities.

In a slow growing economy, regions worldwide are thinking about ways to stimulate business and create jobs (World Economic Forum, 2012). Since a globalized marketplace seems to be the new normal, the area surrounding major airports and gateways, like Hartsfield-Jackson Atlanta International Airport, can be seen as prime real estate for major businesses wanting to be readily accessible to the country and world.

Other regions around the world are quickly jumping to the conclusion that planning for development around their airports is essential to remaining competitive. Atlanta, being the world's largest airport by passenger traffic, has the opportunity to remain competitive. The region can learn from others how to work together in order to reverse a disconnected land pattern, connect the airport to surrounding communities, increase safety, enhance infrastructure and create a new economic base of employment.

The literature researched in this paper points to growth occurring around major airports regardless of what planners and stakeholders do in the next generation.

Perhaps *Airport World* Editor, Joe Bates, said it best by pointing out that airports continue to assume an ever increasing role of importance in their communities. Thus the question is not if land development can occur at an airport, but rather what should be developed, where and when. Whether an airport was originally sited on the exurban fringes at a Greenfield site or in a more urban infill context, the private market has come, and is coming, to the shores of these economic gateways (Bates, 2011).

Thus, this paper seeks to answer the following research questions:

1. What have other regions done, and how have they planned for the areas around their airports?
2. What are the lessons the Atlanta region can learn from the findings of #1?

Case studies and a comparative analysis in this paper are intended to identify land use planning and implementation tools other regions have executed around their airports in order for the Atlanta region to take the smartest and most logical next steps in airport area planning.

# Methodology

This study aimed to pick airport regions that have been successful in airport area development so that Atlanta may learn essential lessons that work.

Each case has a different rules and regulations that they are governed by, and this is a major limitation to the research questions.

Even though domestic metropolitan areas like Denver and Washington, D.C. (Dulles) have notable airport area planning efforts, they were not included due to the amount of Greenfield space the airports occupy or occupied when airport area planning commenced. Greenfields are areas of agricultural or forest land, or some other undeveloped site earmarked for commercial development or industrial projects (BD, 2013). Atlanta's airport is not in a Greenfield but rather in an already suburbanized area where infill development will be required.

There are also many political jurisdictions at and around Hartsfield-Jackson Atlanta International Airport, thus some cases were picked due to a similar situation.

Overall, cases were selected based on notability of airport area planning efforts and the relatable lessons they potentially held for the Atlanta region.

For each airport area studied, this paper analyzes the following:

1. Context of Airport and Region
   *This includes population and demographic information as well as pertinent facts about the airport itself. For domestic airport areas studied, this includes a full industry profile from the U.S. Census.*
2. Airport Area Planning Organizational Development
   *This explores if and how an airport area planning organization was formed. It includes any policies or legislation that were created, and what the role of the organization is to development.*
3. Planning Goals and Objectives
   *This includes stated goals and objectives for airport area development of either a planning organization directly involved, a development company charged with setting goals and objectives, or another planning body. These include but are not limited to: land use and zoning plans, urban design guidelines, transportation and infrastructure plans, environmental assessments, social/economic goals, etc.*
4. Marketing and Branding
   *This includes any pertinent marketing and branding strategies utilized by any of the stakeholders involved in #2 or #3 to execute airport area development plans.*
5. Projects
   *This includes past, current, and future projects in the airport area being studied.*

Domestic case studies also include industry profiles from OnTheMap U.S. Census Data Tool. These profiles are on jobs in a 10 mile radius of the airport. This radius was chosen as a compromise between an "Airport City," considered immediately around an airport, and an "Aerotropolis," which Kasarda defines as the 20 mile radius around an airport (Kasarda, 2011).

# Case Study: Amsterdam, Netherlands

## Context of Airport and Region

Amsterdam is the largest city and capital of the Netherlands. The region has an urban population of about 1.2 million, with a metropolitan population of roughly 2.2 million.

Amsterdam Airport Schiphol is the Netherlands' main international airport, located 20 minutes southwest of Amsterdam (Visit Holland, 2013).

Schiphol is an important European airport, ranking as Europe's 4th busiest and the world's 16th busiest by total passenger traffic in 2012 (14th in 2011). It also ranks as the world's 5th busiest by international passenger traffic and the world's 17th largest for cargo tonnage. Schiphol is considered to be an Airport City (Visit Holland, 2013).

The Netherlands has a strong focus on international trade and is often referred to as a true "trading nation." The country ranks fifth on the world list of exporting countries, conducting 4% of all international trade (Schiphol Group, 2012).

Amsterdam's edge city, Zuidas, contains over 10 million square feet of Class A office space. Zuidas is six minutes away from the airport by expressway or train (Visit Holland, 2013).
It is important to note that Schiphol is primarily considered a Greenfield airport as they have ample developable real estate immediately adjacent to the airport. The airport itself has some development around it, but not completely surrounded like Atlanta.

## Airport Area Planning Organizational Development

Schiphol Group is a company that owns and operates Amsterdam Airport Schiphol, Rotterdam The Hague Airport and Lelystad Airport and has a 51% share in Eindhoven Airport. Outside the Netherlands, Schiphol USA Inc. owns JFK IAT, which operates Terminal 4 at John F. Kennedy Airport, New York. Schiphol Australia has a share in Brisbane Airport Corporation, the operator of Brisbane Airport. Schiphol Group also has a share in Aéroports de Paris, the operator of the airports of Paris (Schiphol Group, 2012).

Schiphol Group is headed by a Board of Management comprising four members. The Board directs four business areas: Aviation, Consumer Products & Services, Real Estate and Alliances & Participations.

Amsterdam Schiphol, through its Schiphol Real Estate Group, has been involved for more than two decades in commercial development. Over 60,000 people are employed at Schiphol, which is a major economic growth pole for the Dutch economy (Kasarda, 2008).

With a wide variety of high-quality property in the form of office and business premises and logistics facilities, Schiphol can be seen as an attractive location for companies. Approximately five hundred companies with a total of 64,000 employees are located at the AirportCity (Schiphol Group, 2013).

## Planning Goals and Objectives

Schiphol Group's aim is to create sustainable value for its stakeholders by developing airport cities and by positioning Amsterdam Airport Schiphol as the leading airport city (Schiphol Group, 2012).

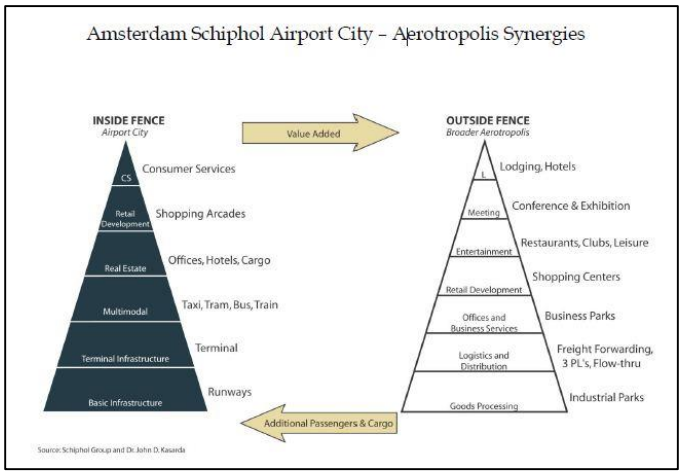



*Figure 1: Aerotropolis Synergies | Source: Kasarda 2008*

The Schiphol Group partnered with Dr. Kasarda to produce a business model to make this thought a reality. Please see Figure 1 which explains the holistic approach for the group's asset management and investment.

Once understanding their business model and approach, the group adopted goals in consumer products and services, real estate, alliances and partnerships and environmentally friendly aviation. Their real estate goal is summarized as follows:

The Real Estate business area develops, manages, operates and invests in property on and around airports in the Netherlands and abroad. The portfolio comprises both operational and commercial real estate that, for the most part, is located on and around Amsterdam Airport Schiphol. The business area offers companies and logistics service providers a variety of locations, offices and business premises and different types of rental contracts, with the special benefit of being in the immediate vicinity of an international airport. Of the property included in the total portfolio, 87% is located at Amsterdam Airport Schiphol.

Although Hartsfield-Jackson Atlanta International Airport is not technically a corporation with shareholders like the Schiphol Group, there are lessons to be drawn from having a diverse range of goals that are not just focused on air travel. Specifically, Schiphol places priority in real estate development and local/regional alliances.

## Marketing and Branding

The Schiphol Group markets and brands their airport city as something unique. According to their website, airports are more than just places enabling passengers to depart by aircraft or transfer planes. An airport is a modern city, offering a brief but enjoyable stay (Schiphol Group, 2012).

Please see the references section for more economic development and AirportCity information produced by the Schiphol Group.

## Projects

AirportCity is located onsite of the airport and has banks, shops, restaurants, meeting areas, children's play areas, hotels and a casino. In addition, a special collection of modern art is located onsite. Please see Figure 2 to see how the AirportCity has been built "inside the fence" of the airport, literally internal to the runways themselves. Figure 3 shows the environment and sense of place given when you walk out of the terminal.

*Figure 2: AirportCity | Source: Schiphol Group, 2012*

CargoWorld is part of the Schiphol Group's AirportCity formula. CargoWorld combines the air cargo process with the latest facilities in a cargo area with good roads, facilities and real estate. Schiphol's cargo area offers companies a broad range of office and warehouse space, infrastructure, landscaping and ancillary services.

*Figure 3: Sense of Place | Source: IIA, 2012*

## Summary for Atlanta

| 2010 Metro Population | Main Planning Organization | Unique Planning Goals | Marketing/Branding Vehicle | Notable Projects |
|---|---|---|---|---|
| 2.2 million | Schiphol Group (private; publically traded) | Consumer service; real estate development; alliances and partnerships; environment | Schiphol Group led; Mainport focus | AirportCity; CargoWorld |

What Amsterdam has been able to do by placing trust in the Schiphol group to deliver a world-class airport and real estate development catalyst is something the Atlanta region could learn a great deal from. Although Atlanta's airport isn't "private," it certainly still makes strategic plans and decisions. From Schiphol, Atlanta can see the value in real estate development "inside the fence" and benefits of creating a sense of place. It is clear that businesses flock to AirportCity and that people enjoy being there.

# Case Study: Paris, France

## Context of Airport and Region

Paris is the capital and largest city of France. While the City of Paris has a population of about 2.3 million, its metropolitan area is one of the largest population centers in Europe, with more than 12 million inhabitants (Paris Convention and Visitors Bureau, 2013).

Paris Charles de Gaulle Airport, also known as Roissy Airport (or just Roissy in French), is one of the world's principal aviation centers, as well as France's largest airport. In 2012, the airport handled over 61 million passengers and 497,763 aircraft movements, making it the world's seventh busiest airport and Europe's second busiest airport (after London Heathrow) in passengers served (Aéroports de Paris, 2013). Paris' other airports are also involved with Charles de Gaulle in terms of planning: Orly, Beauvais-Tille and Le Bouret.

Charles De Gaulle operates as a Greenfield airport as much of the land surrounding the airport is owned by Aéroports de Paris.

## Airport Area Planning Organizational Development

For the past 60 years, the airports in the Paris region are all managed by Aéroports de Paris (ADP). ADP has initiated an investment program around the three major airports, mainly around CDG. ADP began developing airport cities to contribute to the overall aerotropolis surrounding them (Aéroports de Paris, 2013), thus Paris region's aerotropolis and ADP go hand in hand. For the purpose of this case study, ADP is critically analyzed.

Aéroports de Paris established a real estate division in 2003 and became a limited liability company in 2005. ADP acts as the developer, general contractor and construction project owner and manager of landside commercial properties at Paris Charles de Gualle and Orly international airports.

Aéroports de Paris holds significant real estate at and around the airports, making it easy to develop the airport cities around them. Once it had identified non-terminal real estate as one of its main strategic growth areas, ADP improved 155 acres of land and developed approximately 900,000 square feet of office and commercial space.

ADP seems to leverage partnerships when developing and operating the land it has. In 2009, ADP signed partnership agreements with GE Capital Real Estate for the use of the Continental Square real estate group. In 2011, ADP created a joint venture, Relay@ADP, in partnership with Lagardère Services, for the operation of bookstores, books, drinks, sandwiches and souvenirs (Aéroports de Paris, 2013).

While the bulk of most airports' revenue comes from the air carriers themselves, income derived from retail and real estate has become a significant source of growth for Paris' region's airports. Among European airports, Aéroports de Paris, which again represents the region's airports

The issuing of high priced bonds shows the region's commitment to infrastructure and investment. Atlanta might not be able to issue bonds of this size for the airport area since the government doesn't own all of the land surrounding it like at Charles De Gaulle, nor is the land around H-JAIA a Greenfield, however the region should consider all financial investment opportunities.

## Planning Goals and Objectives

Paris has the ambition to become the standard European airport group in terms of customer satisfaction, economic performance and sustainability. Real estate, which will promote and support the airport's clients' own development, is a lever for creating value in the medium and long terms.

**Real Estate Development and Economic Performance**

Through 2015, Paris has the target of developing - either alone or in partnership – 1 million square feet of buildings, of which around 75% is diversified real estate. The investment will amount to $600 – 672 million (Aéroports de Paris, 2013). "Diversified" in this sense means non-terminal land and real estate activities. Non-terminal real estate activities near the airports offer the potential for strategic development and have become drivers of growth for Paris.

**Sustainability**

Paris through ADP set a policy of sustainable development to support growth, aimed to make the development of airport operations acceptable to neighboring territories, local communities and their inhabitants.

Similar to Amsterdam's Schiphol Group, Paris and ADP are serious about real estate development and sustainability – both things Atlanta must consider when planning for the future.

## Marketing and Branding

Hubstart Paris is an economic development alliance for business growth and acts like a chamber of commerce. Hubstart is a network of private and public organizations at a national, regional, and local level. Hubstart Paris works with Paris's three major airports: Charles de Gaulle (Roissy), Orly and Bourget.

Hubstart Paris Alliance seems to market its location, access to transit, flight connections, and large trade shows and conventions possible onsite.

Moreover, the Hubstart Paris alliance is a network of organizations who have aliened around a central goal: to facilitate the settlement and growth of international companies in the "Greater Roissy" area, around the Paris-Charles de Gaulle International airport. By providing a single gateway, Hubstart Paris' mission is to provide businesses with a "one-stop-shop" to help them explore the area and support them in their decision-making. According to the group's website, there are more than 20 public and private sector organizations at the heart of the scheme (Hubstart Paris, 2012).

Among many marketing projects, Hubstart Paris has created an online marketing tool for phones and tablets to allow potential clients to view real estate property easily.

## Projects

In 1990, Roissypole was created at CDG. Roissypole now includes transportation, office and hospitality infrastructure, centered on a multi-modal hub. CDG also has terminal renovations and some new construction of the airport city to be complete by 2015 (Hubstart Paris, 2012).

Almost 1,000 companies are established on the Group's airport site, providing some 115,000 direct jobs and an estimated 300,000 indirect jobs. Major groups such as FedEx, Air France and Compass have relocated to the airport areas.

Roissypole is expanding with the construction of a 40,000 square foot office building, a 600-room hotel complex and a 230-room high-tech hotel that will increase the number of hotels by 2015 (Hubstart Paris, 2012).

Aéroville, a project developed by Unibail-Rodamco, will build a 360,000 square foot shopping and services center. Building permits were obtained at the end of 2010 and work has begun (Hubstart Paris, 2012). The shopping and services center is planned to open at the beginning of 2014. Investment will be around €11 million for land improvement (fully financed by Aéroports de Paris) and €270 million for construction (fully financed by Unibail-Rodamco).


*Figure 4: Roissypole Plan | Source: ADP, 2012*

Over 17 different real estate development projects can be found on Aéroports de Paris' website. A rendering of Roissypole can be seen in Figures 4 and 5.

*Figure 5: Roissypole Development | Source: ADP, 2012*

## Summary for Atlanta

| 2010 Metro Population | Main Planning Organization | Unique Planning Goals | Marketing/Branding Vehicle | Notable Projects |
|---|---|---|---|---|
| 12 million | ADP (private; publically traded) | Real estate development; safety; customer satisfaction; sustainability | HubStart Paris led through website; real estate focus | Roisspole; RoissyTech; OrlyTech |

While much of the area around Paris' Charles de Gaulle is considered a Greenfield and dissimilar to the existing area around Atlanta's airport, the clearly aggressive approach Paris has taken to real estate and business-friendly development is an insight Atlanta can learn from.

Partnerships and alliances are very important for Paris airport area development. Understanding what other organizations are best to align with and when to deliver first-class services is a must for Atlanta.

Due to the business Hubstart Paris has been able to bring in, it seems to be a major asset to the Paris region. Atlanta must find a way to market the area around and connected to Hartsfield-Jackson. This marketing is only possible in concert with investment in the area, however having a third party market is something worth looking into. This might fall into a collection of chamber's responsibilities, or the creation of a whole new organization.

# Case Study: Incheon, South Korea

## Context of Airport and Region

Seoul, officially the Seoul Special City, is the capital and largest metropolis of South Korea. With a population just over 10 million, The Seoul Capital Area, which includes the surrounding Incheon metropolis and Gyeonggi province, is the world's second largest metropolitan area with over 25.6 million people, home to over half of South Koreans along with 632,000 international residents (South Korea Government, 2013).

Incheon International Airport is the largest airport in South Korea, the primary airport serving the Seoul national capital area. For seven years in a row (2005–2012), it was rated the best airport worldwide by Airports Council International (RusTourismNews, 2013). The airport has a golf course, spa, private sleeping rooms, an ice skating rink, a casino, indoor gardens and the Museum of Korean Culture. Its duty-free shopping mall has been rated the world's best for three years in a row in 2012 by Business Traveler (ChosenBiz, 2013).

The airport property (15,000 acres) is considerably larger than most in Asia. The airport serves as a hub for international civilian air transportation and cargo traffic in East Asia. In 2011, 35,062,376 passengers used the airport (ACI, 2012), becoming the world's fourth busiest airport by cargo traffic and the world's eighth busiest airport in terms of international passengers.

## Airport Area Planning Organizational Development

The Incheon International Airport itself is a public organization wholly owned by the Korean government, somewhat parallel to most domestic American airports, Atlanta included. Incheon Since 1999, International Airport Corporation (IIAC) operates Incheon International Airport (IIAC, 2012).

Similar to Paris, the land around the airport is owned by the Incheon International Airport Corporation (IIAC), and developers invest in the operation of the facilities. Land is leased for a time period of no more than 50 years from the date of operation.

When the IIAC wants to develop a property, they make a public bid tender (RFP), and the proposal submission period begins just like in the United States. The design, authorization and construction of a project is then conduced, where private investors construct, own and operate the facilities for periods of up to 50 years, and then transfer them to Incheon Airport. The project company develops the facilities and recoups their investment costs during the land use period. H-JAIA might want to consider a similar land-lease process for property it owns.

Relevant Laws that made this possible include the *New Airport Construction Act* in Seoul metropolitan area and the *Special Act for the Free Economic Zone*.

After the Seoul Airport Act passed, new tax breaks and incentives were created for development. Please see Figure 6 below.

| Target | Tax Types | | Exemption Term and Cut Rates |
|---|---|---|---|
| Foreign companies in the Free Economic Zone | National Taxes | Customs, Special Taxes | For 5 years 100%<br>After 2 years : 50% |
| | | Corporate Taxes, Income Taxes | For 10 years 100%<br>After 3 years : 50% |
| | Provincial Taxes | Acquisition Taxes, Property Taxes, Registration Taxes, General Land Taxes | For 3 years 100% |
| Free Economic Zone Developer | National Taxes | Customs | For 5 years 100% |
| | | Corporate Taxes,<br>Income Taxes | For 3 years 100%<br>After 2 years : 50% |
| | Provincial Taxes | Acquisition Taxes | For 15 years 100% |
| | | Property Taxes | For 10 years 100%<br>After 3 years : 50% |

*Figure 6: Seoul Airport Act Tax Breaks | Source: IIAC, 2012*

## Planning Goals and Objectives

The result of planning legislature in South Korea toward developing around the airport has been positive. Two main growth poles have emerged from these acts in the early 1900s; Air City and New Songdo City. Understanding these areas is critical to understanding the South Korean Government's goals and objectives of economic growth and prosperity, transportation options and sustainable urbanism (Kasarda, 2008).

**Providing Airport Related Services: Air City**

The airport corporation's master plan has real estate development at the top of its priority list. Airport-related industries (primarily logistics), commercial services, and housing for airport employees and their families have already been built adjacent to the airport on the same island – Yeongjong - now dubbed "Air City." Around the airport, a 360 acre international business center composed of four office complexes, a shopping mall, convention and exhibition facility and two hotels opened in 2008.

An extended international free enterprise zone (IFEZ) from Air City encompasses three islands, connected by expressway bridges. A pivotal component in the Republic of Korea's plan to transform the country into the commercial and trading center of Northeast Asia, IFEZ is being promoted as ―Pentaport—a combined airport, business port, seaport, teleport, and leisure port (Incheon IFEZ, 2013).

**Attracting International Commerce: Songdo International Business District**

Songdo Island is considered the second urban growth pole, New Songdo City, being created from scratch entirely on reclaimed land by Gale International of New York City and Posco (South Korea's largest steel producer) in partnership with the Korean Government with financing through Morgan Stanley, the World Bank, ABN Amro and Kookmin Bank (Kasarda, 2008).

The Songdo International Business District at New Songdo City is being developed on 1,500 acres of reclaimed land in South Korea along Incheon's waterfront, seven miles from Incheon

International Airport. The first phase of the new international city opened in August 2009. The 100 million square foot master plan includes commercial office space, residences, retail shops, hotels as well as civic and cultural facilities.

New Songdo City is planned to have 15 million square feet of office and commercial space, 9,000 residences (mostly condominium and town houses), a convention center, a cultural center, a central park greenway, a golf course, a medical facility, and an international school.

As an incentive to its developers, the Korean government agreed to construct a seven-mile, six-lane bridge from New Songdo City directly to Incheon International Airport and provide all utilities (Kasarda, 2008).

The $30 billion+ project is one of the largest private development projects currently underway in the world (Songdo IBD, 2013).

**Sustainable Urbanism**

The master plan for the airport area calls for a synergistic mix of uses for Songdo IBD, from office and convention space to residential and retail developments (Songdo IBD, 2013). AirCity, immediately adjacent to the airport, incorporates many of the same principles.

**Transportation and Infrastructure**

Express bus networks that facilitate access to the airport as well as to surrounding smaller cities are planned; and linkage to the existing Incheon subway system, the Seoul Metropolitan Rapid Transit (SMRT), with connections to the National Railroad network (Songdo IBD, 2013).

Other significant infrastructure investments include the 7.6 mile Incheon Bridge, connecting Songdo IBD to Incheon International Airport.

Further, an inner-city transportation plan has been prepared by the developers. Please see Figure 7.

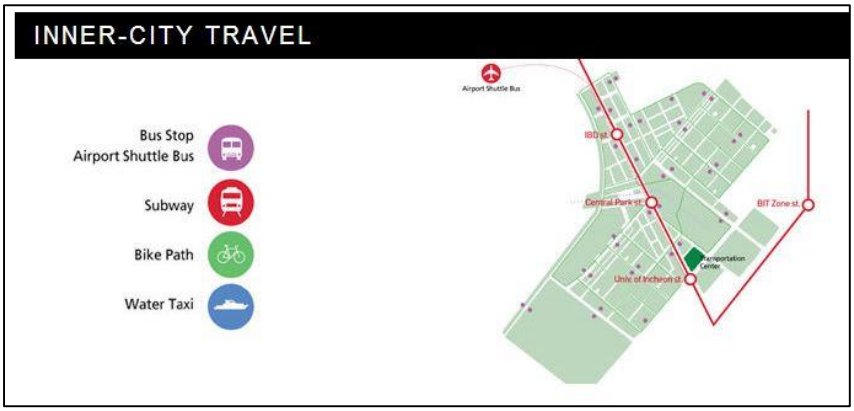



*Figure 7: Songdo Inner-City Travel Plan | Source: Songdo IBD, 2013*

**Urban Design Guidelines**

Kohn Petersen Fox (KPF), selected as the master plan architect for Songdo International Business District, submitted the first master plan is submitted to the city of Incheon in February 2002. The master plan was approved by the city of Incheon on November 2002 and was completed in 2003 (Songdo IBD, 2013). The full book of urban design guidelines can be found in the references section of this paper. See Figure 8 on the following page for a rendering example of urban design guidelines at work in New Songdo.

Insights for Atlanta can be drawn from this type of planning. Incheon differentiates airport related services in its AirCity from attraction to international business and commerce in its New Songdo City. Atlanta should think about Peachtree Industrial and some of the other industrial areas in the area and how to create an airport services network while also catering to attracting high-end businesses and jobs. Further, urban design guidelines are essential when creating separate places. Branding is very important to these areas.

*Figure 8: Urban Design Guidelines at Work | Source: Songdo IBD, 2013*

## Marketing and Branding

The IIAC works with the South Korean Government to ensure development is in concurrence with the airport and state's long term goals. Since the land around the airport is owned by the IIAC, they are the gate-keepers for development, but not charged with the development, marketing and branding themselves. This is where the private sector has the biggest role.

The developers brand and market this aerotropolis. Songdo IBD lays their brand on the line simply by saying, "Songdo International Business District officially opened on August 7, 2009 as a designated Free Economic Zone and the first new sustainable city in the world designed to be an international business district."

See the image showing their branding strategy being close to one third of the world's population in Figure 9.

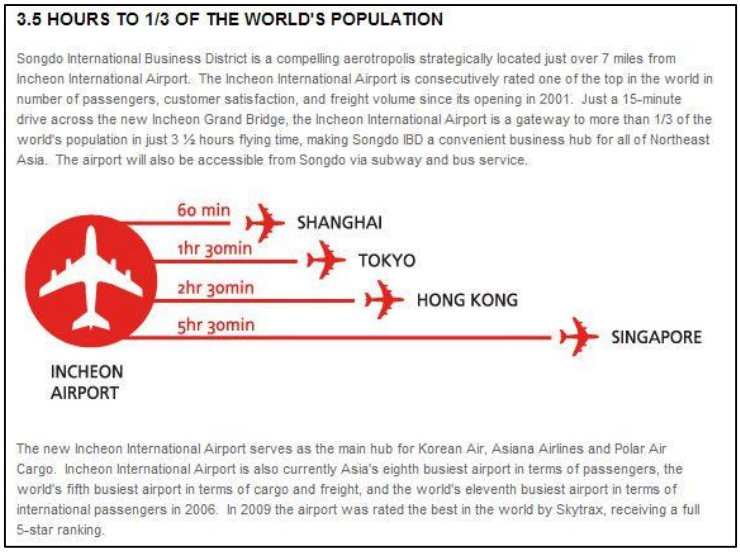



*Figure 9: Access to World via Air | Source: Songdo IBD, 2013*

The IBD also attempts to make it very easy for businesses to lease space. Songdo IBD has a portion of their website dedicated to commercial development opportunities. This portion of their marketing almost acts like an elevated chamber of commerce, showing potential buyers what is available and the facts about each building and parcel, block by block.

## Projects

Many of Incheon's projects have been described though the objectives and goals of the Airport City and Songdo International Business District. Please see Figure 10 for a rendering of the Songdo IBD and Figure 11 for one of many current construction pictures.

*Figure10: Songdo IBD | Source: Songdo IBD, 2013*

*Figure 11: Construction in 2012 | Source: Songdo IBD, 2013*

To support the operation of Incheon International Airport, the area south of the Passenger Terminal is being developed into an arena for international business and administration. This is considered part of AirCity. IBC - I 2nd phase, located near the passenger terminal is the expanded area from IBC - I and will be connected to the airport transportation center by a Maglev (magnetic levitation) train.

International Business Center - I, Golf course (the intended 5th runway area) and other projects are under construction as part of the AirCity development. IBC - I 2nd phase, IBC - II and the south water basin (Water Park) are being developed as core projects. This project is expected to contribute to new airline demand and to further develop infrastructure in areas surrounding the airport. Construction is expected to be complete in 2016.

## Summary for Atlanta

| 2010 Metro Population | Main Planning Organization | Unique Planning Goals | Marketing/Branding Vehicle | Notable Projects |
|---|---|---|---|---|
| 10 million | Developer (private) led; IIAC/South Korea (government) | Sustainable urbanism; transportation; urban design; instant urbanism; air-related services; international commerce | Developer led through website; location to 1/3 of world | AirCity; Songdo International Business District |

With so much occurring instantly at Incheon, it's hard not to be stunned. Atlanta isn't similar to Incheon in many ways. The city isn't creating new islands and acts that allow billions of dollars in public and private investment. The area around Atlanta's airport is not a Greenfield. However, exposure to this scale of airport related development is important for Atlanta, especially when trying to remain globally competitive.

Atlanta should learn that the marketing of location and access to the United States is vital for international commerce. Just like Incheon being 3-4 hours away from 2/3 of Asia, Atlanta is to the U.S. population.

Other tactical projects like urban design guidelines, commercial real estate opportunities available on the internet, catering to businesses, etc. are among the priorities Incheon has taken on that Atlanta can learn from and should also implement. A set of uniform urban design guidelines for the Atlanta airport area environs, both in terms of aesthetics and gateway branding, can and should create a sense of place, connectedness and overall safety.

# Case Study: Hong Kong, China

## Context of Airport and Region

Hong Kong is a special administrative region (SAR) of the People's Republic of China (PRC). With a land mass of 426 square miles and a population of seven million people, Hong Kong is one of the most densely populated areas in the world (Hong Kong Government Census, 2013).

Hong Kong International Airport (HKIA) is the main airport in Hong Kong. It is colloquially known as Chek Lap Kok Airport, being built on the island of Chek Lap Kok by land reclamation, and also to distinguish it from its predecessor, the closed Kai Tak Airport. HKIA also operates one of the world's largest passenger terminal buildings (the largest when opened in 1998).

HKIA is a seemingly important contributor to the Hong Kong economy, employing approximately 60,000 people. In 2011 HKIA handled 53,314,213 passengers, making it the 10th busiest airport worldwide by passenger traffic. It also surpassed Memphis International Airport to become the world's busiest airport by cargo traffic (HKIA, 2013). This is an airport that is growing.

## Airport Area Planning Organizational Development

The airport is operated by the Airport Authority Hong Kong. The Airport Authority Hong Kong (AA or AAHK) is the statutory body (governed by the Airport Authority Ordinance - Cap. 483) of the government of Hong Kong that is responsible for the operations of the Hong Kong International Airport. Formed in 1995, this act gave the authority the right to "engage in or carry on any airport-related activity in trade, commerce or industry at or from any 1 or more places in the Leased Area," as well as, "either solely or jointly with another person or persons improve, develop or alter any land held by it." Thus, the AA is independent of the government financially as a quasi-public-private entity, similar to Atlanta.

Since the enabling act of 1997 mentioned earlier, Hong Kong International Airport has established both commercial and real estate divisions to boost its terminal retail and develop SkyCity, a three million square foot retail, exhibition, office, and hotel and entertainment complex near its passenger terminal on land owned by the Airport Authority Hong Kong (HKIA, 2013). It currently includes the AsiaWorld-Expo, SkyPlaza and SkyPier which will be discussed in detail later.

## Planning Goals and Objectives

The AA has set forth several goals related to aerotropolis planning and development. For this evolving airport, similar to Atlanta, many of the goals are focused on first understanding how the airport business model needed to change to maximize profit.

**Redefine the airport business**

Airports are the center of integrated multi-modal flows of people, goods, information and capital. Airports have become the driving force of new city development, and this group realized that understanding this was the first step – and still is just as important today.

**Understand that land use around airport is important to airport's long term viability**

The group recognizes that land use must be coordinated with the airport to fully maximize assets and return on investment. Land uses they think are important include tourism, recreation,

financial services, trading, logistics, research/technology, transportation, communication, education, residential, commercial, industrial, conference centers, hotels, etc.

**Create an enjoyable and memorable experience**
This AA wants to create a goal of passengers feeling welcome when from arrival to take off. The goals notes that this should also be a pleasant area for nearby residents.

All of the goals mentioned can be applied to Atlanta in a meaningful way. They may relate to Hong Kong in a different context, but Atlanta must set and realize similar goals before planned development can occur. Without goals like these, development around Atlanta's airport will continue to be hap-hazard and spontaneous.

## Marketing and Branding

The Aviation Authority of Hong Kong is responsible for marketing and branding of the area. They see the airport as an engine for economic growth. According to its website, the airport is an international and regional aviation center that makes significant social and economic contributions to Hong Kong. It supports the four pillar industries of Hong Kong – financial services, trading and logistics, tourism, and producer and professional services – which together accounted for 58% of Hong Kong's GDP in 2010. The website goes on to state that it contributes directly to Hong Kong's economy; Hong Kong's aviation industry generated HK$78 billion in value added contribution in 2008, representing 4.6% of Hong Kong's GDP.

The airport directly employs over 65,000 people and the number almost triples when indirect and induced employment – such as jobs created by construction and cleaning companies, and food and retail goods suppliers – are taken into account. Together they represent over 5% of the workforce in Hong Kong (HKIA, 2013).

Atlanta should pull together this type of data in a similar useful way when marketing the area around the airport.

## Projects

Three commercial districts adjacent to or near HKIA's terminal and runways are well along in development as previously mentioned. The 70-acre South Commercial District is composed of logistics facilities, including (1) Tradeport Hong Kong Ltd., constructed and operated by an international consortium of Asia and European Partners, (2) HACTL's Super Terminal 1 (the world's largest stand-alone air-cargo and air-express facility with a gross area of 2.7 million sq. ft), (3) the 2 million sq. ft. Asia Air Freight Terminal, and (4) a 1.4 million sq. ft. mixed-use freight-forwarding warehousing and office complex (Kasarda, 2008).

*Figure 12: SkyPlaza | Source: SOM, 2013*

The 110-acre North Commercial District is the Airport City's signature development zone, previously mentioned as SkyCity. The 10 million sq. ft. commercial development is adjacent to the passenger terminal and served by the airport express train.

SkyCity has been designed and developed as a commercial destination for working, shopping, entertainment, meeting and trading and is the urban core of Hong Kong's Airport City. SkyCity's first phase opened in late 2006 and contains SkyPlaza, a multipurpose commercial complex connected to the passenger terminal and the airport express train station. The lower floors of SkyPlaza provide a 300,000 sq. ft. retail center, including an IMAX 3D theater. Above this podium is class A office space with a total gross floor area of another 300,000 square feet. SkyCity's first phase development also includes a 2 million sq. ft. international exhibition center (Asia World Expo). SkyCity is linked by express train and highway to the nearby Disney Theme Park that also opened on the airport's island in 2006 (Kasarda, 2008). Please see Figure 12.

In addition, Airport World Trade Centre (AWTC) is a class-A office building. The premises are owned by the Airport Authority Hong Kong, and located immediately next to the two terminals and ground transportation center. It is connected to Hong Kong's central business district by the Airport Express railway in about 24 minutes (HKIA, 2013).

## Summary for Atlanta

| 2010 Metro Population | Main Planning Organization | Unique Planning Goals | Marketing/Branding Vehicle | Notable Projects |
|---|---|---|---|---|
| 7 million | Airport Authority (sole Airport Authority) | redefining business model; land use changes; enjoyable experience | Airport Authority led; economic engine for growth focus | SkyCity |

Although Hong Kong is halfway around the world, there are many similarities to Atlanta in the way the airport can operate. The Airport Authority owns and operates the airport – having seemingly more freedom from government than Atlanta, but as compared to other international examples, this is not owned by a private corporation. Hong Kong proves that with public-private partnership, development can still be achieved in a sustainable way. Hong Kong also placed priority for its airport to be enjoyable and sets its SkyCity up as a global entertainment district. This should be something Atlanta considers.

As previously noted, Asian tourism accounts for a large portion of the rise of international travel. An average Chinese tourist spends $3,000-4,000 during one trip in NYC (Kasarda, 2012), and Atlanta should be thinking about how to attract some of that revenue.

# Case Study: Dallas, Texas

## Context of Airport and Region

The Dallas-Fort Worth-Arlington, TX Metropolitan Statistical Area had a 2011 estimated population of 6,526,548, making it the largest metropolitan area in the U.S. South. The metropolitan is commonly called North Texas or North Central Texas and is the largest land-locked metropolitan area in the United States (Visit Dallas, 2013).

Dallas/Fort Worth International Airport is located between the cities of Dallas and Fort Worth, Texas, and is the busiest airport in Texas. In terms of land area, at 18,076 acres, it is the largest airport in Texas, and the second largest in the United States, behind Denver International Airport. It is the tenth busiest international gateway in the United States, and second in Texas, following Houston Intercontinental. DFW is so large that it has its own post office ZIP code, and public services (DFW Airport, 2013).

## Industry Profile

Dallas/Fort Worth International Airport has a multitude of land inside and outside the fence. Being located between Dallas and Fort Worth is advantageous for workers.

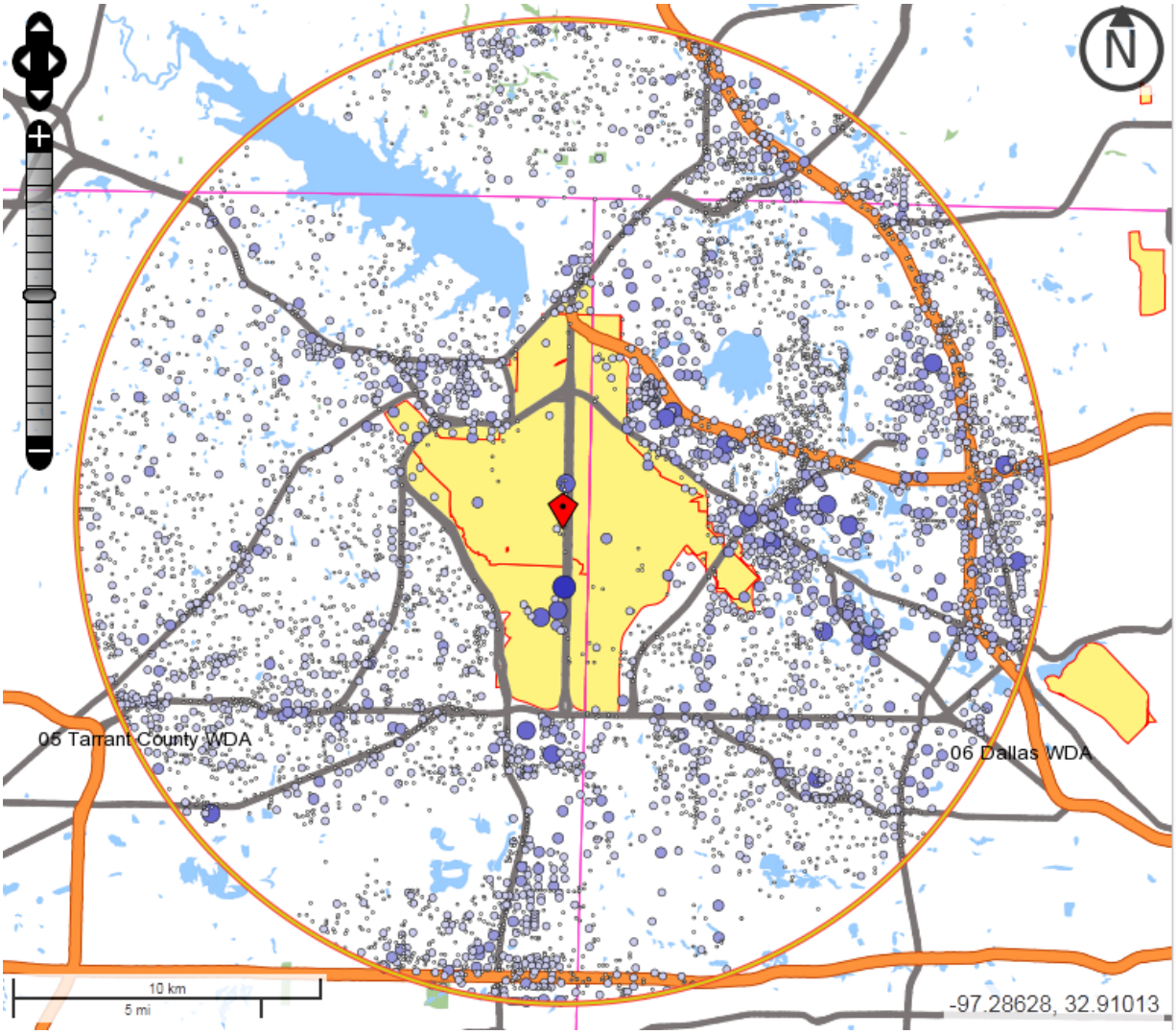
Sixty-one percent of the working population in a 10 mile radius of the airport is at the working age of 30-54.

Eighty percent of the workers are mostly middle class (with 46% making more than $3,333 a month), and 77 percent of the working population is white.

There are approximately 580,000 jobs in this area. Topping the list are retail trade, waste management, transportation warehousing and utilities. None of these come as a surprise with the airport itself being the biggest driver of jobs in the area.

The jobs seem much more nodal than in Atlanta, and to the east side of the airport. Whether Dallas has planned for it or not, they have an aerotropolis-like region within this 10 miles. Please see Figure 13 on the following pages for detailed information.

**Figure 13: Dallas/Fort-Worth International (DFW) 10 Mile Radius Analysis**




- 5 - 1,976 Jobs/Sq.Mile
- 1,977 - 7,892 Jobs/Sq.Mile
- 7,893 - 17,751 Jobs/Sq.Mile
- 17,752 - 31,553 Jobs/Sq.Mile
- 31,554 - 49,300 Jobs/Sq.Mile
- 1 - 31 Jobs
- 32 - 482 Jobs
- 483 - 2,438 Jobs
- 2,439 - 7,703 Jobs
- 7,704 - 18,806 Jobs
- Analysis Selection

| | |
|---|---|
| Analysis Type | Area Profile |
| Selection area as | Work |
| Year(s) | 2010 |
| Job Type | All Jobs |
| Labor Market Segment | All Workers |
| Selection Area | Selection Area Shape from DFW10.shp |
| Selected Census Blocks | 13,463 |
| Analysis Generation Date | 07/26/2012 17:50 - OnTheMap 6.1 |
| Code Revision | 8f927194285c+ |
| LODES Data Version | 20120531 |

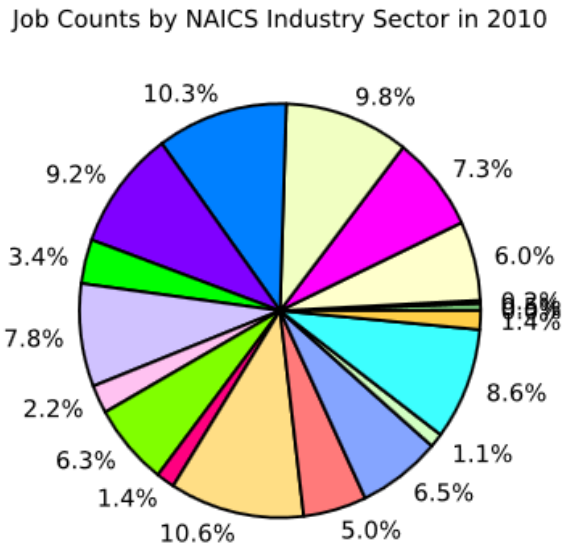
## Job Counts Within DFW 10 Mile Radius

This data is based on workers employed within the 10 mile buffer, not where they live.

*Source: U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (Beginning of Quarter Employment, 2nd Quarter of 2002-2010).*

| Job Counts by NAICS Industry Sector | 2010 | |
|---|---|---|
| | Count | Share |
| Total All Jobs | 579,620 | 100.0% |
| Agriculture, Forestry, Fishing and Hunting | 176 | 0.0% |
| Mining, Quarrying, and Oil and Gas Extraction | 2,997 | 0.5% |
| Utilities | 1,402 | 0.2% |
| Construction | 34,998 | 6.0% |
| Manufacturing | 42,339 | 7.3% |
| Wholesale Trade | 56,663 | 9.8% |
| Retail Trade | 59,564 | 10.3% |
| Transportation and Warehousing | 53,203 | 9.2% |
| Information | 19,523 | 3.4% |
| Finance and Insurance | 45,490 | 7.8% |
| Real Estate and Rental and Leasing | 12,546 | 2.2% |
| Professional, Scientific, and Technical Services | 36,338 | 6.3% |
| Management of Companies and Enterprises | 8,362 | 1.4% |
| Administration & Support, Waste Management and Remediation | 61,219 | 10.6% |
| Educational Services | 28,776 | 5.0% |
| Health Care and Social Assistance | 37,844 | 6.5% |
| Arts, Entertainment, and Recreation | 6,282 | 1.1% |
| Accommodation and Food Services | 49,560 | 8.6% |
| Other Services (excluding Public Administration) | 14,090 | 2.4% |
| Public Administration | 8,248 | 1.4% |

Reset Table



## DFW 10 Mile Radius

### Jobs by Worker Age

| | 2010 | |
|---|---|---|
| | Count | Share |
| Age 29 or younger | 131,318 | 22.7% |
| Age 30 to 54 | 356,094 | 61.4% |
| Age 55 or older | 92,208 | 15.9% |

### Jobs by Earnings

| | 2010 | |
|---|---|---|
| | Count | Share |
| $1,250 per month or less | 109,517 | 18.9% |
| $1,251 to $3,333 per month | 200,123 | 34.5% |
| More than $3,333 per month | 269,980 | 46.6% |

### Jobs by Worker Race

| | 2010 | |
|---|---|---|
| | Count | Share |
| White Alone | 447,805 | 77.3% |
| Black or African American Alone | 82,775 | 14.3% |
| American Indian or Alaska Native Alone | 4,163 | 0.7% |
| Asian Alone | 35,839 | 6.2% |
| Native Hawaiian or Other Pacific Islander Alone | 1,213 | 0.2% |
| Two or More Race Groups | 7,825 | 1.4% |

### Jobs by Worker Ethnicity

| | 2010 | |
|---|---|---|
| | Count | Share |
| Not Hispanic or Latino | 460,676 | 79.5% |
| Hispanic or Latino | 118,944 | 20.5% |

### Jobs by Worker Educational Attainment

| | 2010 | |
|---|---|---|
| | Count | Share |
| Less than high school | 62,851 | 10.8% |
| High school or equivalent, no college | 107,594 | 18.6% |
| Some college or Associate degree | 143,280 | 24.7% |
| Bachelor's degree or advanced degree | 134,577 | 23.2% |
| Educational attainment not available (workers aged 29 or younger) | 131,318 | 22.7% |

### Jobs by Worker Sex

| | 2010 | |
|---|---|---|
| | Count | Share |

| | | |
|---|---|---|
| Male | 319,196 | 55.1% |
| Female | 260,424 | 44.9% |

## Airport Area Planning Organizational Development

The airport itself is owned jointly by the Cities of Dallas and Fort Worth, and operated by the DFW Airport Board. The airport is inside the city limits of four suburban cities, a situation that has led to legal battles over jurisdiction. To help ensure future harmony with its neighbors, the DFW Airport Board includes a non-voting member – a representative chosen from the airport's neighbors (Irving, Euless, Grapevine, and Coppell) on a rotating basis (DFW, 2012).

There is no formal "aerotropolis" or "airport city" planning organization in conjunction with DFW, although there are many related major developments both inside and outside the airport's fence. The airport board controls so much land that it controls its own destiny so to speak in terms of real estate development. The DFW master plan does include multiple plazas and districts for non-aviation, revenue generating development.

The airport has an active commercial development program as part of its initiative to diversify non-airline revenue sources. Commercial development provides non-airlines revenues, which strengthen DFW's competitive position.

## Planning Goals and Objectives

The airport board has set various goals as they relate to planning and real estate development.

**Develop 6,000 acres in nodes over 20 years on property**

Airport officials plan to take advantage of the airport's vast size by developing nearly 6,000 acres for industrial and commercial use over the next 20 years. Airport officials see improved connectivity and development potential via three new rail stations that will connect the airport to Dallas and Fort Worth when they open this decade.

**Partner with Surrounding Communities**

DFW continues to invest its resources in the community by supporting local chambers of commerce, fostering environmental education and outreach, sponsoring educational initiatives and spearheading its annual United Way campaign that donates hundreds of thousands of dollars to worthwhile agencies.

**Create and Use Design Standards**

Existing land uses and conditions on and near DFW Airport property—such as airside operations, flood plains, thoroughfare plans, utilities, adjacent land uses, and soils—were defined to establish development parameters for future commercial development. A planning effort to explore the overall feasibility and timing for potential commercial development of DFW Airport property resulted in the 2007 Commercial Development Land Use Plan. The resulting plan, building on a market-driven analysis performed in 2001, identified the highest and best use of buffer acreage to determine areas suitable for commercial aviation and non-aviation related uses and serves as the framework for long-term development of commercial areas on DFW Airport property. Criteria such as visibility, road access, appropriate adjacent land uses, terrain, and large tracts previously identified were considered.

Dallas is similar to Atlanta in many ways. Atlanta can learn from DFW the benefits of being specific with airport real estate goals (i.e. develop 6,000 acres in nodes over 20 years). DFW has

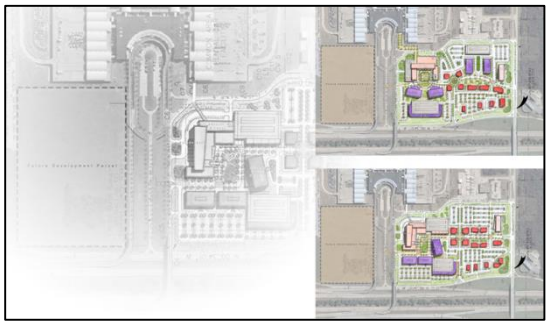


*Figure 14: Design Standards | Source: DFW, 2012*

also placed priority in partnering with surrounding communities which is pivotal for Atlanta since there are seven municipalities and three counties immediately at or near the airport. Again, we see design standards and gateways as a priority project at DFW, similar to Hong Kong and Incheon.

Additional considerations include inter-local agreements with member cities and surrounding municipalities in which tracts of land may be taxed. The development of a tax incentive plan or other method of compensation and zoning criteria must be addressed. See Figure 14.

The Master Plan identified the need to continue to grow industrial development on Airport property. Several areas have been identified for new industrial development opportunities. International Commerce Park has been identified as an opportunity for additional development. The continued success of International Commerce Park not only benefits the Airport but is an economic contributor to the DFW Metroplex.

The proposed advent of commuter and light rail transit operations to the proposed Cotton Belt and Belt Line Stations outside of DFW Airport provides enormous opportunities for commercial development in Transit Oriented Development (TOD) scenarios. TOD creates compact, walkable communities centered on high-quality train systems. This makes it possible to live a higher-quality life without complete dependence on a car for mobility and survival. DART's Mockingbird and Galatyn Stations have both been developed under the TOD philosophy and are highly successful (DFW Airport, 2013). See Figure 15.

*Figure 15: TOD Rendering | Source: DFW, 2012*

## Marketing and Branding

Dallas Forth Worth Airport Board and the North Central Texas Council of Governments (NCTCOG) both contribute to the marketing of the area. There is currently no aggressive marketing campaign for the area but rather a very organized and informative database of development and master plan documents on the airport's website.

## Projects

**Southgate Plaza**

Southgate Plaza is a node of development with a 2010 phasing plan for commercial/office mix-use development in southeast corner of airport property. Please see the references section for an informative guide to land use and urban design guidelines.

**Founders Plaza**

Founders Plaza is a similar node in the northwest corner of airport property. More recently in December 2012 a plan for mix-use development and gateway improvements came out.

**Los Colinas**

Officially part of Irvin, Texas, this is an entire edge city built because of the location to DFW and between Dallas and Fort Worth. As a master planned community, it has many corporate offices, hotels, townhomes, single family homes, country clubs, gated enclaves and urban lofts. With 25,000,000 square feet of office space – nearly equivalent to the Dallas CBD – Las Colinas is currently home to more than 2,000 companies, and growing (Los Colinas, 2013). Please see Figure 16.

*Figure 16: Los Colinas | Source: Los Colinas, 2013*

## Summary for Atlanta

| 2010 Metro Population | Main Planning Organization | Unique Planning Goals | Marketing/Branding Vehicle | Notable Projects |
|---|---|---|---|---|
| 6.5 million | DFW Airport Board (sole Airport Authority) | Develop 6,000 acres over 20 years on site; utilize location between metros; utilize future rail | N/A | Southgate Plaza; Founders Plaza; Las Colinas |

| Number of Jobs | Top Industries | % making more than $3,333 a month |
|---|---|---|
| 579,620 | Retail; Waste Management; Transportation/Warehousing; Utilities | 46.60% |

Outside of real estate development goals, partnerships and design criteria, DFW has a lot of unique projects going on. Both Southgate and Founders Plaza are nodal mixed use developments on airport property. Nodal development is key here and something Atlanta should consider since infill development will be the main option for growth given the area's existing conditions.

Of other importance to Atlanta is DFW's Los Colinas. The ability for this edge city to cater toward business class workers for live, work and pleasure has proven very successful for Dallas. Atlanta might want to consider or brand its airport area as a future edge city from the downtown core.

# Case Study: Memphis, Tennessee

## Context of Region and Airport

Memphis is a city in the southwestern corner of Tennessee, and the county seat of Shelby County. Memphis had a population of 672,277 in 2011 making it the largest city in Tennessee, the largest city on the Mississippi River and the third largest in the Southeastern United States. The Memphis Metropolitan Statistical Area which includes 10 counties had a 2011 estimated population of 1,778,568 (City Data, 2013).

Memphis International Airport is a joint civil-military public airport located seven miles southeast of the central of Memphis. Memphis International Airport is home to the FedEx Express global "SuperHub", which processes a significant portion of the freight carrier's packages. From 1993 to 2009, Memphis had the largest cargo operations by volume of any airport worldwide. Memphis fell into second position worldwide in 2010, following Hong Kong, although it remained the busiest cargo airport in the United States. Major national and international distribution facilities for Flextronics, Hewlett, Nike, Sharp and many others have located in Memphis largely to be near the FedEx hub (Memphis International, 2013).

The region is a historic transportation hub and is remarkably consistent in promoting its status as such.

## Industry Profile

Memphis International Airport is similar to Atlanta in that it is located in a pocket of interstates and within 10 miles of the core city center.

Fifty-nine percent of the working population in a 10 mile radius of the airport is at the working age of 30-54.

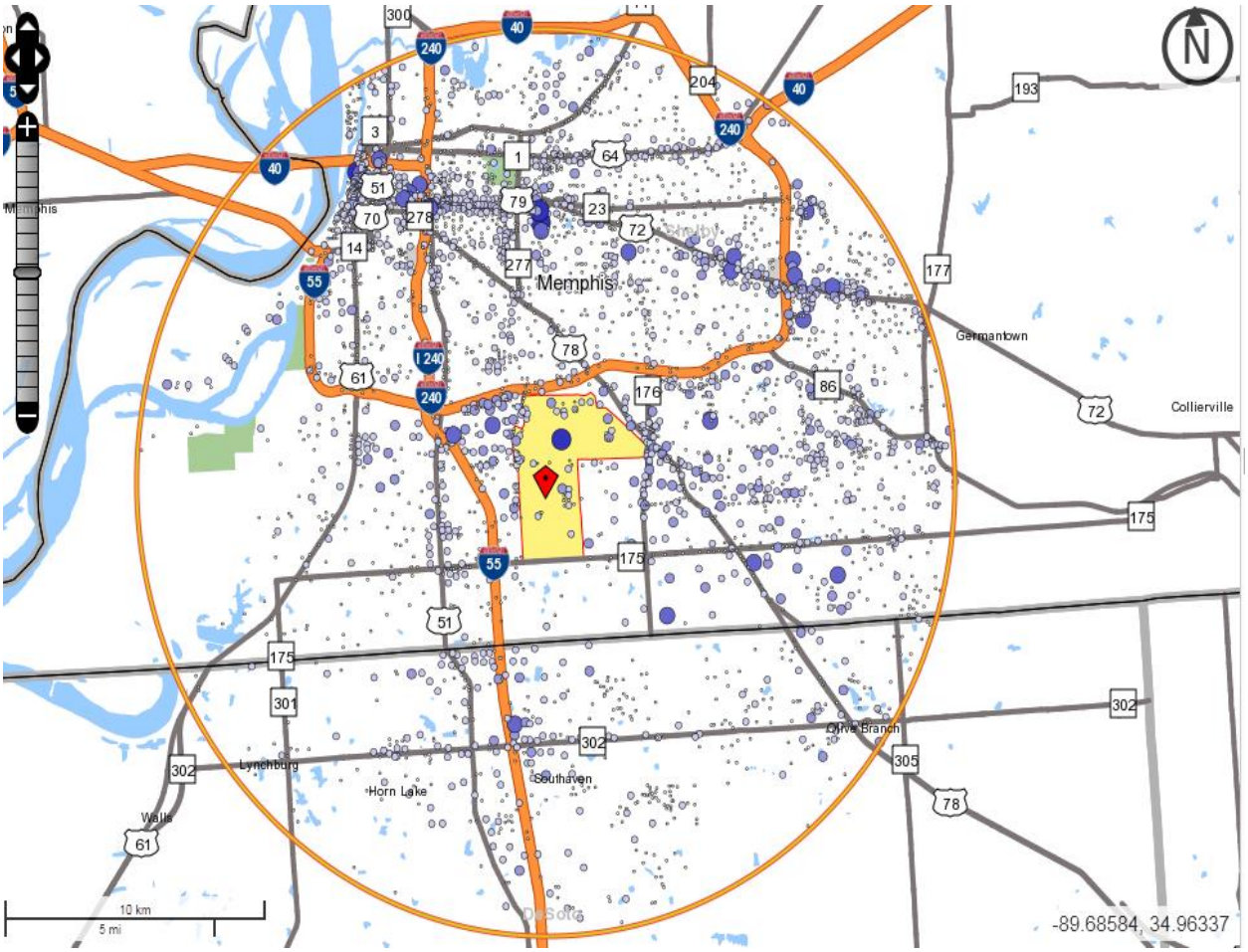
Seventy-seven percent of the workers are mostly middle class (with 39% making more than $3,333 a month), and 54 percent of the working population is white.

There are approximately 374,000 jobs in this area. Topping the list are transportation/ warehousing, health care, education and retail. This makes sense as the region is marketing itself as a transportation and warehousing hub for America, and also focusing on health care and education.

This analysis is of 10 miles just like the other 4 domestic case studies, but it is worth nothing that Memphis generally considers and plans for John Kasarda's aerotropolis 20 mile radius theory.

Please see Figure 17 on the following pages for detailed information.

**Figure 17: Memphis International Airport 10 Mile Radius Analysis**



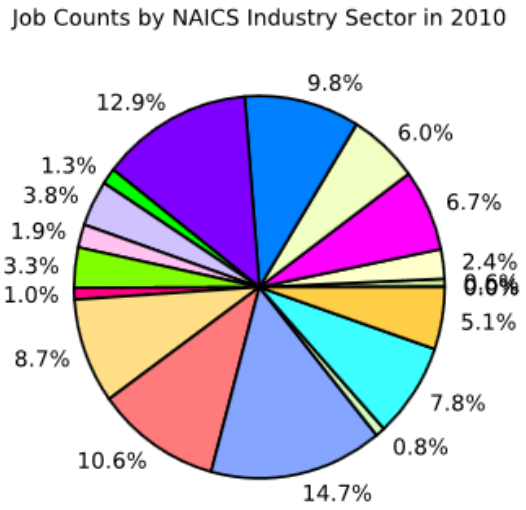

- 1 - 26 Jobs
- 27 - 407 Jobs
- 408 - 2,060 Jobs
- 2,061 - 6,509 Jobs
- 6,510 - 15,892 Jobs
- Analysis Selection

| | |
|---|---|
| **Analysis Type** | Area Profile |
| **Selection area as** | Work |
| **Year(s)** | 2010 |
| **Job Type** | All Jobs |
| **Labor Market Segment** | All Workers |
| **Selection Area** | Selection Area Shape from Mem10.shp |
| **Selected Census Blocks** | 11,373 |
| **Analysis Generation Date** | 07/26/2012 18:45 - OnTheMap 6.1 |
| **Code Revision** | 8f927194285c+ |
| **LODES Data Version** | 20120531 |

## Job Counts Within Memphis International 10 Mile Radius

| Job Counts by NAICS Industry Sector | 2010 | |
|---|---|---|
| | Count | Share |
| Total All Jobs | 374,076 | 100.0% |
| Agriculture, Forestry, Fishing and Hunting | 107 | 0.0% |
| Mining, Quarrying, and Oil and Gas Extraction | 32 | 0.0% |
| Utilities | 2,411 | 0.6% |
| Construction | 9,075 | 2.4% |
| Manufacturing | 25,135 | 6.7% |
| Wholesale Trade | 22,281 | 6.0% |
| Retail Trade | 36,561 | 9.8% |
| Transportation and Warehousing | 48,100 | 12.9% |
| Information | 4,952 | 1.3% |
| Finance and Insurance | 14,077 | 3.8% |
| Real Estate and Rental and Leasing | 7,122 | 1.9% |
| Professional, Scientific, and Technical Services | 12,360 | 3.3% |
| Management of Companies and Enterprises | 3,613 | 1.0% |
| Administration & Support, Waste Management and Remediation | 32,428 | 8.7% |
| Educational Services | 39,494 | 10.6% |
| Health Care and Social Assistance | 54,964 | 14.7% |
| Arts, Entertainment, and Recreation | 3,005 | 0.8% |
| Accommodation and Food Services | 29,196 | 7.8% |
| Other Services (excluding Public Administration) | 10,064 | 2.7% |
| Public Administration | 19,099 | 5.1% |

Reset Table




This data is based on workers employed within the 10 mile buffer, not where they live.

*Source: U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (Beginning of Quarter Employment, 2nd Quarter of 2002-2010).*

## Memphis International 10 Mile Radius

### Jobs by Worker Age

| | 2010 Count | Share |
|---|---|---|
| Age 29 or younger | 79,562 | 21.3% |
| Age 30 to 54 | 222,866 | 59.6% |
| Age 55 or older | 71,648 | 19.2% |

### Jobs by Earnings

| | 2010 Count | Share |
|---|---|---|
| $1,250 per month or less | 84,751 | 22.7% |
| $1,251 to $3,333 per month | 141,132 | 37.7% |
| More than $3,333 per month | 148,193 | 39.6% |

### Jobs by Worker Race

| | 2010 Count | Share |
|---|---|---|
| White Alone | 201,471 | 53.9% |
| Black or African American Alone | 160,987 | 43.0% |
| American Indian or Alaska Native Alone | 1,003 | 0.3% |
| Asian Alone | 7,594 | 2.0% |
| Native Hawaiian or Other Pacific Islander Alone | 280 | 0.1% |
| Two or More Race Groups | 2,741 | 0.7% |

### Jobs by Worker Ethnicity

| | 2010 Count | Share |
|---|---|---|
| Not Hispanic or Latino | 362,373 | 96.9% |
| Hispanic or Latino | 11,703 | 3.1% |

### Jobs by Worker Educational Attainment

| | 2010 Count | Share |
|---|---|---|
| Less than high school | 31,583 | 8.4% |
| High school or equivalent, no college | 85,642 | 22.9% |
| Some college or Associate degree | 99,424 | 26.6% |
| Bachelor's degree or advanced degree | 77,865 | 20.8% |
| Educational attainment not available (workers aged 29 or younger) | 79,562 | 21.3% |

### Jobs by Worker Sex

| | 2010 Count | Share |
|---|---|---|
| Male | 183,329 | 49.0% |
| Female | 190,747 | 51.0% |

## Airport Area Planning Organizational Development

Two aerotropolis-related organizations have been formed in Memphis: Memphis Airport Area Development Corporation (MAADC), which is focusing on aesthetic improvements and investment in the immediate airport area, and the Memphis Aerotropolis Steering Committee, focusing on the larger 20 mile area.

The primary objective is upgrading the appearance of the immediate airport area and drawing more attractive businesses to corridors leading into and out of the airport to create more positive impressions by business people and tourists coming to Memphis (America's Aerotropolis, 2009).

MAADC operates with private-sector funding from a number of Memphis' leading corporations (e.g., FedEx, Medtronics, Elvis Presley Enterprises), the corporation has a substantial operating budget. In 2009, the City of Memphis and their Chamber were jointly awarded a $1.26 million federal grant from HUD's "Community Challenge" program for "Aerotropolis planning and redevelopment" which is funding an ongoing planning exercise. For projects, the Chamber secured $1.6 million from City of Memphis for Plough Blvd. beautification, with another $45,000 State Forestry grant and in-kind work by the City.

Perhaps the most noteworthy aspect of Memphis' approach is a holistic "aerotropolis" as a region rather than an airport city or single node.

## Planning Goals and Objectives

In 2008, the Memphis Aerotropolis Steering Committee effort was divided into 4 volunteer-based work groups, each of approximately 10-15 members: Marketing and Branding; Transportation and Access; Corridor Development; and Gateways and Beautification.

### Take Advantage of Central U.S. Location

Memphis is centrally located on the inland waterway system, 640 river miles north of New Orleans and 400 miles south of St. Louis. It possesses the fourth largest inland water port in the U.S. Memphis is also central in the national rail network. Over 200 trains per day travel through Memphis — about one every six and a half minutes.

Given its position in the waterways and railroad systems, Memphis is also well positioned in the national highway network and in the nation's highway freight corridors (America's Aerotropolis, 2009).

### Improve Infrastructure

Airport-linked development is a priority in Memphis regional development. Intermodal connectivity provides the "joints" of the regional infrastructure skeleton and needs to operate smoothly. As a logistics dependent region that is an EPA non-attainment zone, Memphis needs to be greener as well as faster. Public transit is becoming a priority for the region.

### Adopted Land Use Goals and Principles

The airport area's appearance and functionality must be improved by upgrading the surroundings to become clustered commercial campuses with logistics, manufacturing, and cargo handling physically separated from flows of business and leisure travelers.

Airport area zoning is planned to encourage the location of airport oriented businesses and industries near MEM, while addressing aesthetic and social problem issues. This is precisely

what Atlanta needs to do because of the need to address both business growth and aesthetic and social issues.

The airport area needs to plan for the additional close-in core logistics space by banking expansion land for airside expansion and critical logistics activities.

For Atlanta, airport area hotels could be consolidated into cohesive zones with ready access to adjacent entertainment areas and acceptable forms of transit.

**Adopted Governance Goals and Principles**

Local governments in Memphis understand that they must work together as a single entity, reflecting the fact that the Aerotropolis is a single integrated market economy, in order to prevent companies that desire to locate in the Memphis Aerotropolis from playing jurisdictions off one another to the detriment of their tax bases and their residents.

Aerotropolis area government officials and their planners should conduct periodic working sessions to explore how their specific jurisdictions could encourage more effective place marketing, address airport-induced problems, and realize more beneficial development outcomes.

Consideration should be given to establishing a task force within the Memphis MPO to focus on priorities in the broader airport area, and, in cooperation with regional governments, rank projects for inclusion in state and Federal transportation plans.

Memphis and Shelby County should establish an accelerated site and building plan approval process that can move quickly and flexibly when a potential tenant expresses interest.

Master planning at MEM and its surrounding area should be a flexible framework for accommodating a wide variety of tenants, users, facilities, and layouts that can be modified when new technologies, industries, and infrastructure emerge.

The Regional Logistics Council should periodically review the Memphis Aerotropolis logistics strategy, keeping abreast of mergers, highway congestion, fuel cost, and other factors that could affect the future direction of the logistics industry

All of these governance goals set by Memphis are important insights and should be adopted in a similar form and fashion in Atlanta due to the similar governance structure and needs.

Further, the Greater Memphis Chamber then outlined the following overall critical success factors**:**

1. The Memphis Aerotropolis must be designed around emerging twenty-first-century business practices.

2. Development plans for the Memphis Aerotropolis must give high priority to quality of life considerations, economic efficiency, and sustainability.

3. Master plans for the Memphis Aerotropolis must be flexible and reconfigurable.

4. The Memphis Aerotropolis must establish synchrony with other infrastructure projects around the country and the world.

5. The Memphis Aerotropolis must emphasize the importance of logistics-based capabilities in assisting, supporting, and attracting globally-oriented businesses.

6. Development planning should focus on the aesthetic and social climate in the immediate airport area.

7. Master plans must demonstrate regional benefits of the Memphis Aerotropolis (America's Aerotropolis, 2009).

Memphis clearly has a well thought out mission, vision and set of goals. Above all else, this should be Memphis' lesson to Atlanta. The city is able to go out and find funding for both public and private projects because of the platform they have created for themselves by putting the time in to plan and set clear goals. Their regional focus is paramount.

## Marketing and Branding

In 2008, the Greater Memphis Chamber of Commerce hired a full-time vice president for Logistics and Aerotropolis Development. This executive plays a key role in coordinating and supporting aerotropolis initiatives by various public and private-sector groups across the Memphis region. MEM and the concept of "America's Aerotropolis" are at the forefront of the Memphis Fast Forward initiative that has been launched by a partnership of Memphis Tomorrow, the Greater Memphis Chamber, and both the City of Memphis and Shelby County.

Memphis city leaders realize that MEM area development will complement and reinforce downtown revitalization over time, making both areas more successful.

The 2009 Greater Memphis Chamber strategic plan gave the following marketing recommendations:

- Memphis' Aerotropolis logistics-based marketing must be designed to successively attract a targeted segment of time-sensitive goods processing based on existing capabilities which, in turn, would serve as a catalyst to attract additional complementary firms to the MEM area and greater Memphis Aerotropolis.
- Attracting additional time-sensitive manufacturing and distribution industries will require that Memphis International Airport (MEM) management build on its fast-mover advantage by integrating and leveraging all MEM elements for fast-cycle logistics.
- Memphis city and regional leadership should establish a close working relationship with major commercial real estate firms and site selection consultants, regularly updating them on the continuing development of Memphis' Aerotropolis assets.
- The Memphis-Shelby County Airport Authority and Memphis economic development organizations have taken an important step by "branding" the region as America's Aerotropolis.

These marketing goals and priorities are an important competent to Memphis because it supports working toward the larger region's vision. This is something Atlanta must do in the area by the airport to reverse existing social and economic perceptions.

## Projects

Projects in this vast aerotropolis area include:

- I-269 Construction Macon road to State Road 57 ($54M);
- New Multi-Modal Mississippi River Bridge Environmental Impact Study ($7M);
- Lamar/I-22 Corridor Study;
- Aerotropolis/Clean Memphis Partnership;
- Airways/I-240/Plough Boulevard Master Plan;
- City of Memphis Plough Boulevard Landscaping Implementation Project ($1.6M); and
- Aerotropolis Gateway Signage.

Please see Figure 18 for a special map of the aerotropolis region.

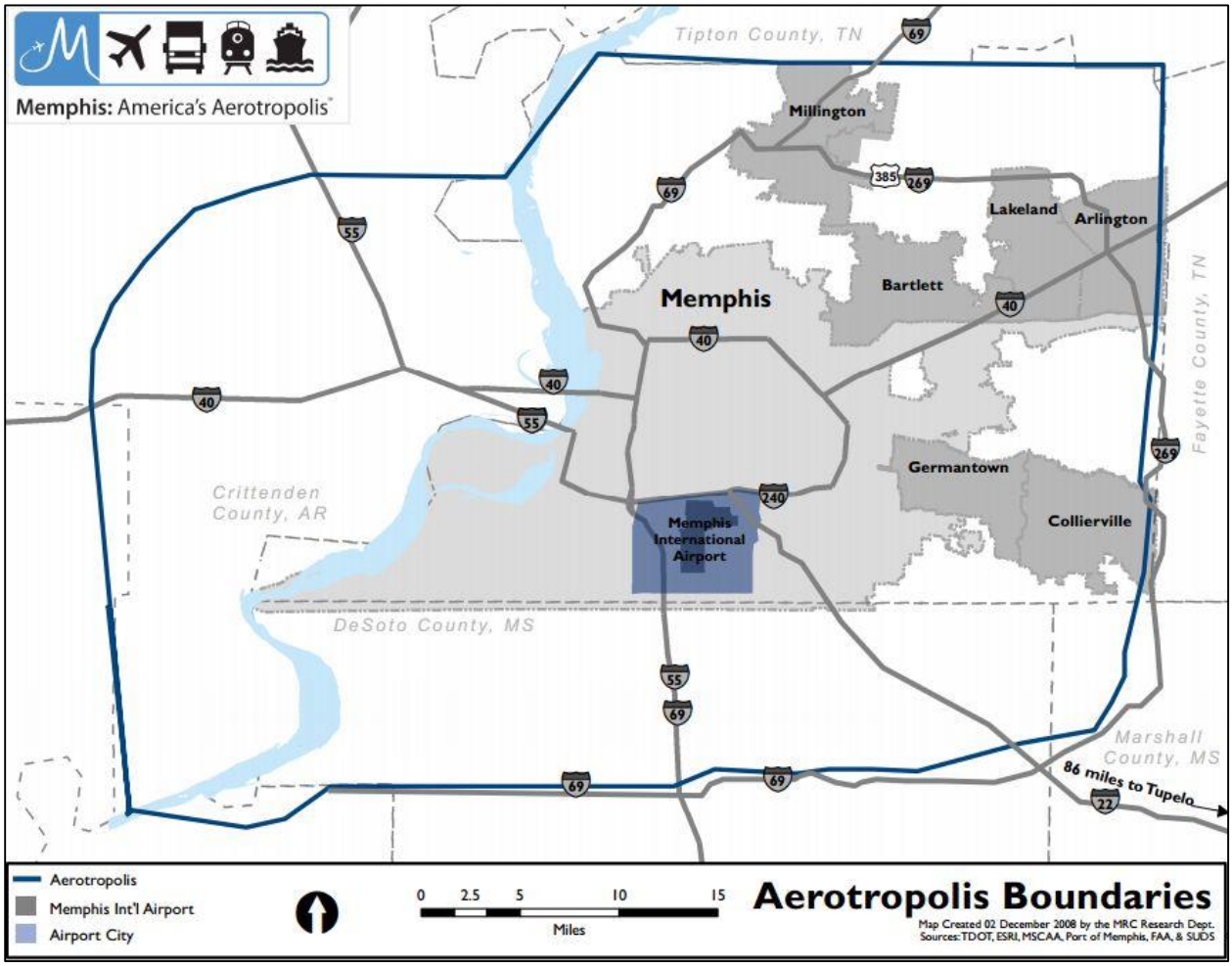



*Figure 18: Memphis Boundary Map | Source: Memphis Chamber, 2012*

## Summary for Atlanta

| 2010 Metro Population | Main Planning Organization | Unique Planning Goals | Marketing/Branding Vehicle | Notable Projects |
|---|---|---|---|---|
| 1.8 million | Memphis Chamber (government agency) | Utilize central US location; build economic base; focus on region not just airport; infrastructure; land use changes; governance changes | Chamber led through website; regional focus | America's Aerotropolis |

| Number of Jobs | Top Industries | % making more than $3,333 a month |
|---|---|---|
| 374,076 | Transportation/Warehousing; Health Care; Education; Retail | 39.60% |

While Memphis is a much smaller metro (1.8 million) compared to Atlanta (5.5 million), it has done something Atlanta hasn't with a very similar governance structure: intentional airport area planning and investment. Not that the outcome needs to be the same, because it almost certainly won't be. However, Atlanta needs to invest the time and resources into planning for the area around its airport at the level Memphis has.

Atlanta can also specifically learn from the power of collaboration. As mentioned, Memphis has two organizations working toward the same goals, one made up of private companies with private dollars (MAADC), and one with public organizations and public grant dollars (Memphis Aerotropolis Steering Committee). They are able to work together to achieve both local and regional goals. This could be very beneficial to Atlanta.

# Case Study: Detroit, Michigan

## Context of Airport and Region

Detroit is the largest city in Michigan, a region of 5.2 million people. In 2010, the city had a population of 713,777 and ranked as the 18th most populous city in the United States. This, however, is more than a 60% drop down from a peak city population of over 1.8 million at the 1950 census (City Data, 2013). This is important to note as the region has more pressure to try to bolster its economy, creating an interesting sprout of airport area related development.

Detroit Metropolitan Wayne County Airport, or simply DTW, is a major international airport in the United States covering 7,072 acres in Romulus, Michigan, a suburb of Detroit. It is Michigan's busiest airport and one of the world's largest air transportation hubs. In 2009, Detroit Metropolitan Wayne County Airport was the 16th-busiest airport in the United States and the 24th busiest airport in the world in terms of passenger traffic (DMA, 2012).

## Industry Profile

DTW is similar to Atlanta in that it is located in a pocket of interstates and within 10 miles of some of the core city center.

Sixty percent of the working population in a 10 mile radius of the airport is at the working age of 30-54.

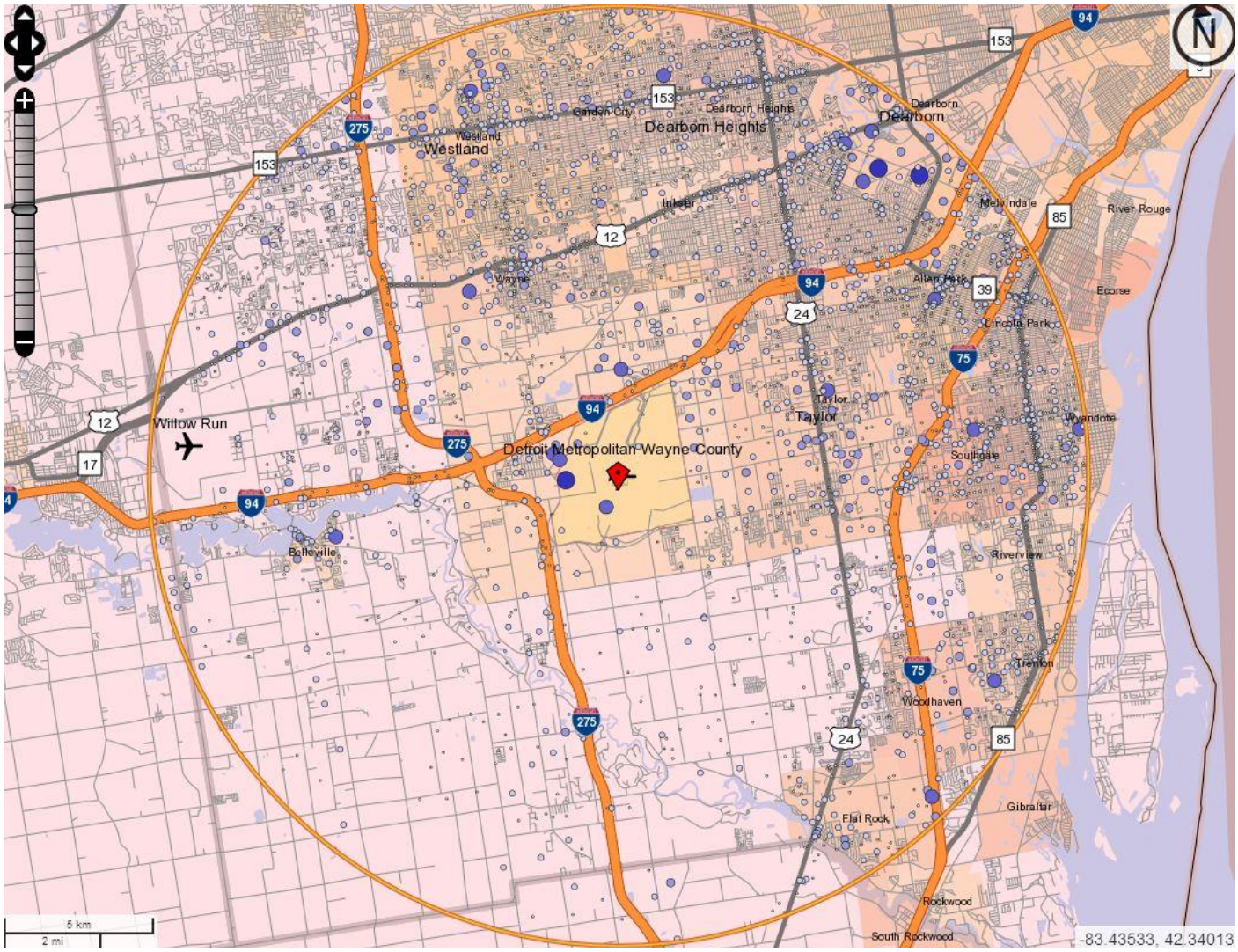
Seventy-five percent of the workers are mostly middle class (with 41% making more than $3,333 a month), and 82 percent of the working population is white.

There are approximately 203,000 jobs in this area. This is considerably less than the other case study cities. Topping the list are transportation/warehousing, health care, manufacturing and retail.

The decline in the past decade out of Detroit has left this area as one of the only areas in the country with a declining population. As area that was so heavily based economically on manufacturing, it is encouraging to still see this in the top four industry sectors. Detroit won't give up, and they hope to transform their manufacturing city of the 20$^{th}$ century into the technology city of the 21$^{st}$ century.

Please see Figure 19 on the following pages for detailed information.

**Figure 19: Detroit Metropolitan Wayne County Airport (DTW) 10 Mile Radius Analysis**

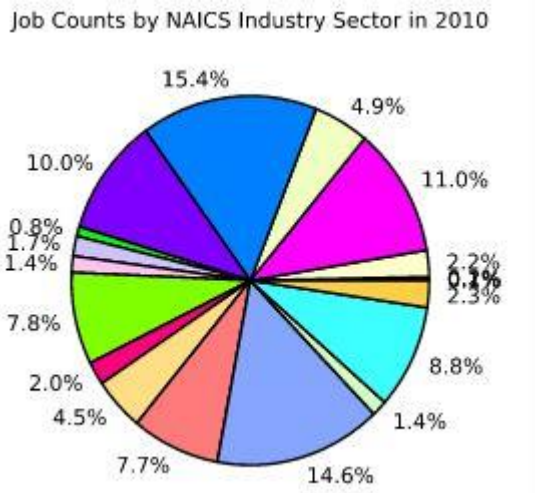



- 1 - 16 Jobs
- 17 - 241 Jobs
- 242 - 1,217 Jobs
- 1,218 - 3,847 Jobs
- 3,848 - 9,391 Jobs
- Analysis Selection

| | |
|---|---|
| Analysis Type | Area Profile |
| Selection area as | Work |
| Year(s) | 2010 |
| Job Type | Primary Jobs |
| Labor Market Segment | All Workers |
| Selection Area | Selection Area Freehand Drawing buffered 10.00 miles |
| Selected Census Blocks | 11,462 |
| Analysis Generation Date | 03/28/2013 09:12 - OnTheMap 6.1.1 |
| Code Revision | 6fa57eb0dfae+ |
| LODES Data Version | 20120531 |

## Job Counts Within DTW 10 Mile Radius

| NAICS Industry Sector | 2010 Count | 2010 Share |
|---|---|---|
| Agriculture, Forestry, Fishing and Hunting | 174 | 0.1% |
| Mining, Quarrying, and Oil and Gas Extraction | 106 | 0.1% |
| Utilities | 372 | 0.2% |
| Construction | 4,516 | 2.2% |
| Manufacturing | 22,228 | 11.0% |
| Wholesale Trade | 9,870 | 4.9% |
| Retail Trade | 31,286 | 15.4% |
| Transportation and Warehousing | 20,259 | 10.0% |
| Information | 1,646 | 0.8% |
| Finance and Insurance | 3,431 | 1.7% |
| Real Estate and Rental and Leasing | 2,798 | 1.4% |
| Professional, Scientific, and Technical Services | 15,819 | 7.8% |
| Management of Companies and Enterprises | 3,987 | 2.0% |
| Administration & Support, Waste Management and Remediation | 9,119 | 4.5% |
| Educational Services | 15,655 | 7.7% |
| Health Care and Social Assistance | 29,610 | 14.6% |
| Arts, Entertainment, and Recreation | 2,738 | 1.4% |
| Accommodation and Food Services | 17,872 | 8.8% |
| Other Services (excluding Public Administration) | 6,586 | 3.2% |
| Public Administration | 4,594 | 2.3% |




This data is based on workers employed within the 10 mile buffer, not where they live.

Source: U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (Beginning of Quarter Employment, 2nd Quarter of 2002-2010).

## DTW 10 Mile Radius

### Jobs by Worker Age

| | 2010 | |
|---|---|---|
| | Count | Share |
| Age 29 or younger | 46,103 | 22.7% |
| Age 30 to 54 | 121,115 | 59.8% |
| Age 55 or older | 35,448 | 17.5% |

### Jobs by Earnings

| | 2010 | |
|---|---|---|
| | Count | Share |
| $1,250 per month or less | 49,461 | 24.4% |
| $1,251 to $3,333 per month | 68,928 | 34.0% |
| More than $3,333 per month | 84,277 | 41.6% |

### Jobs by Worker Race

| | 2010 | |
|---|---|---|
| | Count | Share |
| White Alone | 166,171 | 82.0% |
| Black or African American Alone | 27,794 | 13.7% |
| American Indian or Alaska Native Alone | 737 | 0.4% |
| Asian Alone | 5,867 | 2.9% |
| Native Hawaiian or Other Pacific Islander Alone | 89 | 0.0% |
| Two or More Race Groups | 2,008 | 1.0% |

### Jobs by Worker Ethnicity

| | 2010 | |
|---|---|---|
| | Count | Share |
| Not Hispanic or Latino | 195,670 | 96.5% |
| Hispanic or Latino | 6,996 | 3.5% |

### Jobs by Worker Educational Attainment

| | 2010 | |
|---|---|---|
| | Count | Share |
| Less than high school | 12,340 | 6.1% |
| High school or equivalent, no college | 43,450 | 21.4% |
| Some college or Associate degree | 51,801 | 25.6% |
| Bachelor's degree or advanced degree | 48,972 | 24.2% |
| Educational attainment not available (workers aged 29 or younger) | 46,103 | 22.7% |

### Jobs by Worker Sex

| | 2010 | |
|---|---|---|
| | Count | Share |
| Male | 103,187 | 50.9% |
| Female | 99,479 | 49.1% |

## Airport Area Planning Organizational Development

The discussion of developing an aerotropolis around Detroit Metropolitan Airport and Willow Run Airport dates back to the 1980s when Northwest Airlines helped make Detroit Metropolitan Airport a major hub for passenger travel (Tarantino, 2010).

At the same time, Willow Run Airport, once the primary location for the manufacturing of B-24 bombers during World War II, grew to be one of the busiest on-demand cargo airports in North America, serving the needs of the automotive industry.

In 2002 both airports were spun off from Wayne County control and placed under the current Wayne County Airport Authority. The aerotropolis concept was gaining traction in the region though, thus Wayne County and the airport authority collaborated on planning matters.

Realizing that a project of such scope required strong input from the local governments near the airports, Wayne County began to engage the seven municipal governments in close proximity to the airports including two in neighboring Washtenaw County. Ten government entities along with the Wayne County Airport Authority signed a non-binding memorandum of understanding to explore the Aerotropolis concept in the summer of 2006 (Tarantino, 2010).

Wayne County then recruited the support of the nonprofit group Detroit Renaissance whose board is composed of the Detroit region's leading private CEOs. In 2007 a 35-member public-private Aerotropolis Task Force was formed that included elected government officials and private sector leaders.

In 2009, Wayne and Washtenaw counties, along with the seven cities, signed an Intergovernmental Agreement to form the Detroit Region Aerotropolis Development Corporation (ADC) under the Michigan Urban Cooperation Act (P.A. 7 of 1967). The Act permits a public agency to exercise jointly with any other public agency any power, privilege or authority which such public agencies share in common and which each might exercise separately. The Parties desired to enter into an inter-local agreement, pursuant to Act 7 to jointly create the Corporation and exercise the economic development powers shared by the Parties.

Another legislation passed by the state, The Next Michigan Development Act (H.B. 5346), is something the ADC has taken advantage of. This act allows agencies to be established through inter-local agreements for the sole purpose of fostering new business investment around a region's unique assets including major transportation networks involving aviation, rail, sea and roads. The legislation allows for the creation of up to 10 new renaissance zones up to 200 acres each per Corporation with a maximum of 25 businesses statewide (Tarantino, 2010).

The Detroit Region ADC now seeks to provide companies with a comprehensive, integrated offering of facilities, amenities and services to conduct business on a global scale. The ADC is being funded through membership fees by local government signatories and private-sector contributions (Tarantino, 2010).

Detroit's organizational development thus far shows the ability to form a new organization with multiple jurisdictions and quickly attract jobs and new investment.

## Planning Goals and Objectives

From the Intergovernmental Agreement, Article V: Specific Powers of Corporation, the ADC has set various goals as they relate to planning and real estate development.

**1. Development Criteria.** The Corporation shall have the power to develop and establish development criteria and development-ready preconditions for the Parties for economic development assistance. The development criteria shall apply to proposals made to the Corporation for economic development assistance within all or a part of the geographic territory of the Corporation.

**2. Design Standards.** The Corporation shall promulgate specific design standards to be applied to applications received from property owners and developments which desire to receive economic development incentives from the Corporation under this Agreement and relevant law. The design standards shall be submitted to the Local Government Parties for approval prior to implementation by the Corporation.

**3. Aerotropolis Master Design Plan.** The Corporation, in collaboration with the Local Government Parties, shall have the power to promulgate an Aerotropolis Master Design Plan for that area within the boundaries of the Corporation in which the Corporation shall offer economic development incentives. The Aerotropolis Master Design Plan may include proposed land uses to be recommended to the Local Government Parties' consideration in respect of the Local Government Parties' zoning regulations. The Aerotropolis Master Design Plan shall be submitted to the Local Government Parties for approval prior to implementation.

**4. Infrastructure Planning and Development.** The Corporation shall have the power to work with State and local government officials in the planning and development of infrastructure within the geographic territory of the Corporation.

**5. Site Selection.** The Corporation shall have the power to assist prospective developers and businesses with selection of development sites within the geographic territory of the Corporation.

**6. Marketing; Business Attraction.** The Corporation shall have the power to conduct marketing and business attraction efforts on behalf of itself and the Detroit metropolitan region.

**7. Real Estate Development.** The Corporation shall have the power to provide consultation to assist any Person in respect of the development of real estate for use by a Qualified Aerotropolis Business within the geographic territory of the Corporation.

**8. Regulatory Assistance and Processing.** The Corporation shall have the power to provide assistance to prospective developers and businesses in respect of applying for and obtaining any necessary or advisable licenses, permits or approvals from federal, State and local government entities.

**9. Streamlined Permitting Processes.** The Parties recognize the need for uniform and streamlined local permitting processes, and therefore the Corporation shall have the power to recommend for approval to the Parties streamlined permitting and approval processes for projects within the geographic territory of the Corporation for consideration by the Parties.

**10. Local Government Assistance.** The Corporation shall have the power to provide assistance to local government parties with the implementation and coordination of economic development programs within the geographic territory of the Corporation.

**11. Designation of Aerotropolis Development Zones**; Criteria; Local Government Party Disapproval. To the extent permitted by Act 376 and herein, the Corporation shall have the power to designate property within the Corporation's geographic territory as a Zone.

**12. Approval of Act 198 Tax Abatements**; Local Government Party Disapproval. To the extent permitted by Act 198 and herein, the Corporation shall have the power to establish plant rehabilitation districts and industrial development districts and exercise the other powers under Act 198.

**13. Approval of Personal Property Tax Exemptions**; Local Government Party Disapproval. To the extent permitted by Act 206 and herein, the Corporation shall have the power to exempt new personal property under section 9f(1) under Act 206.

These goals from state legislature have immense importance and power. Atlanta can learn from this type of policy making and should work with the state legislature around potential similar acts.

## Marketing and Branding

Active promotion of an Aerotropolis has been conducted by local government leaders with the inclusion of private sector interests. This is seen as an effort to reverse the trend in job losses in the Detroit area and a way to use the excess capacity at Detroit's two airports.

Further, The ADC completed a marketing and communication study by Applied Storytelling. The ADC chose the name "VantagePort" as its area's brand.

Tim Keyes, Chair of the Aerotropolis Development Corporation, stated in the 2012 ADC annual report, "Our task now is nourishing and maintaining this momentum. Soon a contractor will be hired to develop a new website for VantagePort. Marketing will be our watchword, with a special emphasis on name recognition, branding and outreach to our audiences. To support our efforts the State's new Supply Chain program will be launched to help with marketing and regional interaction. Our efforts need to focus on becoming visible to the national and international markets and to develop relationships that bring about a "hand in glove" relationship with private sector development."

## Projects

Since January 2012 over $300 million in new industrial/manufacturing investment has been committed in the VantagePort district (DRA, 2013).

Inergy Automotive Systems completed construction of a 320,000 square foot pre-engineered building structure on 44 acre sites in Huron Township. This included the creation of 240 new jobs. The plant will be one of Inergy's largest North American sites.

In September Lee Steel broke ground on a 32-acre Greenfield site in Romulus, MI. The new 250,000-square-foot facility is scheduled to be operational in early 2013. This included the creation of 30 new jobs. The strategically located plant will have rail access and is in close

proximity to several major interstate freeways for supply chain and logistic advantages. The new facility brings a decidedly 'green' emphasis to complement Lee Steel's reputation as an innovator in processing technology.

In May of 2012 Brose North America Inc. announced it will move into a former Mopar Facility in Huron Township. 350 new jobs will be created at the new operation and another 100 supporting jobs will be added to the Company's Headquarters. The expansion was necessary after Brose was awarded contracts to supply parts to Chrysler and Ford.

In September Watson Engineering was awarded a $537,455 Transportation Economic Development Fund (TEDF) grant from the Michigan Department of Transportation (MDOT) to support planned investment in Taylor. This lead to the creation of 80 new jobs. Watson Engineering manufactures sheet and tubular metal components for the agricultural and automotive industries. It is expanding in Taylor, where it will invest $8.1 million in a 65,000-squarefoot facility located on vacant property behind the company's existing buildings on Racho Road.

The GE Aviation Group completed a $17 million refurbishing of a building in Van Buren Township. This area will see up to 90 new jobs at the facility. The facility will develop composite jet engine components (DRA, 2012).

Please see Figure 20 for a map of the intended boundary for planning the Detroit Regional Aerotropolis.

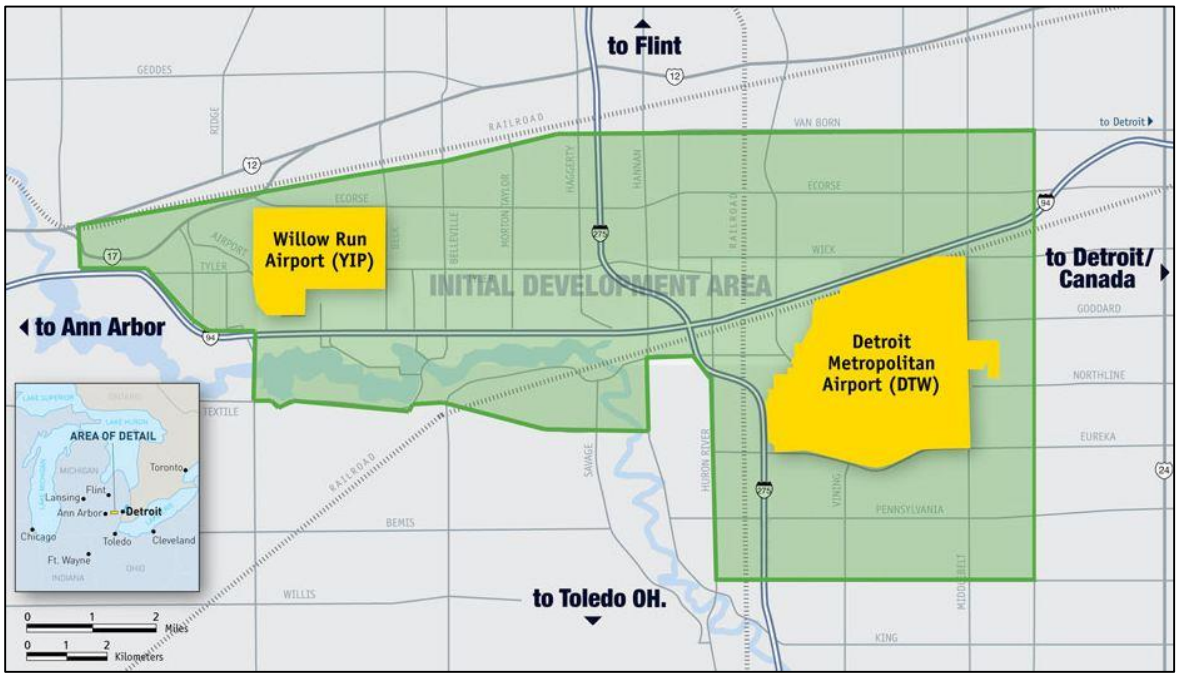



*Figure 20: Detroit Boundary Map | Source: DRA, 2012*

## Summary for Atlanta

| 2010 Metro Population | Main Planning Organization | Unique Planning Goals | Marketing/Branding Vehicle | Notable Projects |
|---|---|---|---|---|
| 5.2 million | Detroit Regional Aerotropolis (Independent public agency) | Job creation; real estate development; incentives | DRA led through future VANTAGEPOINT & SupplyChain Michigan; focus on incentives | $300 in funding and 800 jobs in 2012 |

| Number of Jobs | Top Industries | % making more than $3,333 a month |
|---|---|---|
| 202,666 | Retail; Health Care; Transportation/Warehousing; Manufacturing | 41.60% |

Detroit has formed an aerotropolis independent government agency, some might say, out of emergency. The local government and its citizens are looking for anything it can do it bring jobs and energy back to the region. Atlanta is not in a place of such immediate emergency, but it makes one wonder what could be done to make a region like Atlanta more resilient to situations that have lead Detroit into the one they face. Setting up legislature and acts of law that allow for organizations like the Detroit ADC is incredible.

In a very short amount of time, Detroit and Michigan were able to let this organization not only exist but have immense power. The ADC is charged with development criteria and design standards for real estate development between DTW and Willow Run. They are to have a master aerotropolis plan. They are allowed incentives, opportunity zones and special tax areas. They are to aid in planning for future infrastructure and investment. They also must market themselves with the help of partners and experts as well as offer streamlined development review processes.

Between Michigan's Next Development Act and their launching of VantagePoint as a brand, thus far their projects have seen great initial success. Granted, Detroit is in a far different place economically than Atlanta, trying to hold on to population and jobs. If Atlanta could tap into half of these ideas in a non-emergency basis, it would serve the region well.

# Case Study: Indianapolis, Indiana

## Context of Airport and Region

Indianapolis is the capital city of Indiana, with a 2010 population of 829,718. It is the twelfth largest city in the United States, and one of the fastest growing metropolitan areas in the United States (City Data, 2013).

Indianapolis International Airport is a public airport located seven miles southwest of the central business district of Indianapolis. The airport is the largest in Indiana, occupying approximately 7,700 acres of land in Wayne and Decatur Townships of Marion County, all within the city of Indianapolis. The airport's passenger terminal was the first designed and built in the United States since the terror attacks on September 11, 2001 (IND, 2012).

FedEx Express opened their Indianapolis hub in 1988. Three expansions since opening have made IND home to the second largest hub in the world for FedEx behind only the world hub at Memphis International Airport. IND is the eighth largest cargo center in the U.S., the 22nd busiest airport in the world by cargo traffic. More than 2.2 billion pounds of cargo were managed at IND in 2010 (IND, 2012).

## Industry Profile

Indianapolis is similar to Atlanta in that it is located in a pocket of interstates and within 10 miles of the core city center.

Sixty percent of the working population in a 10 mile radius of the airport is at the working age of 30-54.

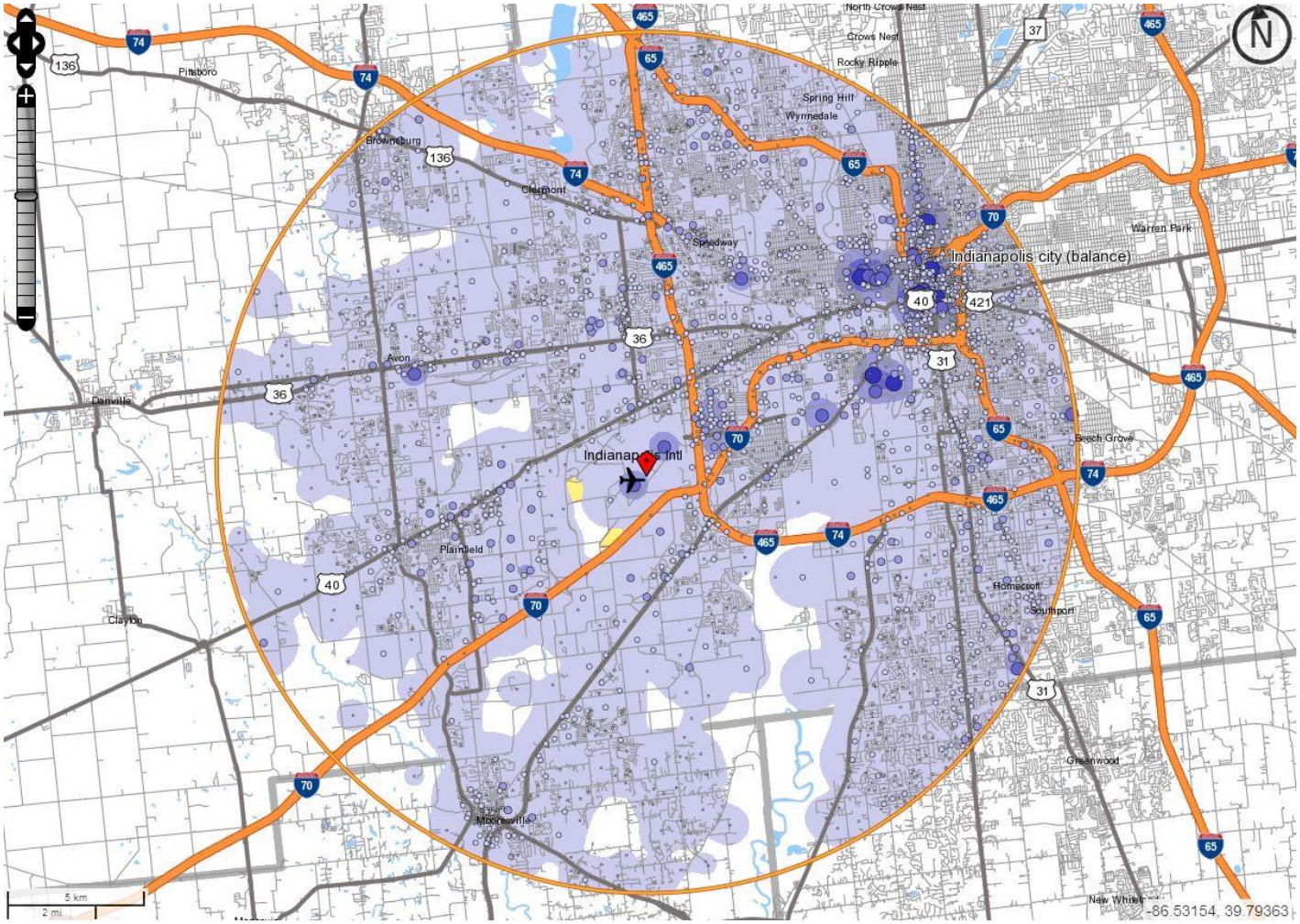
Eighty-three percent of the workers are mostly middle class (with 46% making more than $3,333 a month), and 83 percent of the working population is white.

There are approximately 324,000 jobs in this area. Topping the list are health care, management and education.

Development patterns seem to be nodal between the downtown core outward toward the airport, more so than Atlanta's patterns.

Please see Figure 21 on the following pages for detailed information.

**Figure 21: Indianapolis International Airport (IND) 10 Mile Radius Analysis**

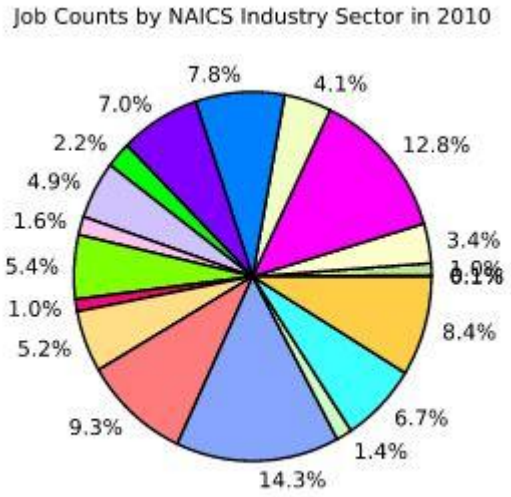



- 1 - 18 Jobs
- 19 - 282 Jobs
- 283 - 1,428 Jobs
- 1,429 - 4,512 Jobs
- 4,513 - 11,016 Jobs
- Analysis Selection

| | |
|---|---|
| Analysis Type | Area Profile |
| Selection area as | Work |
| Year(s) | 2010 |
| Job Type | Primary Jobs |
| Labor Market Segment | All Workers |
| Selection Area | Selection Area Freehand Drawing buffered 10.00 miles |
| Selected Census Blocks | 11,098 |
| Analysis Generation Date | 03/27/2013 22:30 - OnTheMap 6.1.1 |
| Code Revision | 6fa57eb0dfae+ |
| LODES Data Version | 20120531 |

## Job Counts Within IND 10 Mile Radius

| NAICS Industry Sector | 2010 Count | 2010 Share |
|---|---|---|
| Agriculture, Forestry, Fishing and Hunting | 216 | 0.1% |
| Mining, Quarrying, and Oil and Gas Extraction | 171 | 0.1% |
| Utilities | 3,235 | 1.0% |
| Construction | 10,874 | 3.4% |
| Manufacturing | 41,402 | 12.8% |
| Wholesale Trade | 13,357 | 4.1% |
| Retail Trade | 25,157 | 7.8% |
| Transportation and Warehousing | 22,661 | 7.0% |
| Information | 7,075 | 2.2% |
| Finance and Insurance | 15,842 | 4.9% |
| Real Estate and Rental and Leasing | 5,052 | 1.6% |
| Professional, Scientific, and Technical Services | 17,558 | 5.4% |
| Management of Companies and Enterprises | 3,351 | 1.0% |
| Administration & Support, Waste Management and Remediation | 16,895 | 5.2% |
| Educational Services | 30,097 | 9.3% |
| Health Care and Social Assistance | 46,202 | 14.3% |
| Arts, Entertainment, and Recreation | 4,478 | 1.4% |
| Accommodation and Food Services | 21,817 | 6.7% |
| Other Services (excluding Public Administration) | 11,278 | 3.5% |
| Public Administration | 27,367 | 8.4% |




This data is based on workers employed within the 10 mile buffer, not where they live.

*Source: U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (Beginning of Quarter Employment, 2nd Quarter of 2002-2010).*

# IND 10 Mile Radius

## Jobs by Worker Age

| | 2010 | |
|---|---|---|
| | Count | Share |
| Age 29 or younger | 67,744 | 20.9% |
| Age 30 to 54 | 196,111 | 60.5% |
| Age 55 or older | 60,230 | 18.6% |

## Jobs by Earnings

| | 2010 | |
|---|---|---|
| | Count | Share |
| $1,250 per month or less | 55,478 | 17.1% |
| $1,251 to $3,333 per month | 118,483 | 36.6% |
| More than $3,333 per month | 150,124 | 46.3% |

## Jobs by Worker Race

| | 2010 | |
|---|---|---|
| | Count | Share |
| White Alone | 269,381 | 83.1% |
| Black or African American Alone | 43,834 | 13.5% |
| American Indian or Alaska Native Alone | 895 | 0.3% |
| Asian Alone | 7,178 | 2.2% |
| Native Hawaiian or Other Pacific Islander Alone | 186 | 0.1% |
| Two or More Race Groups | 2,611 | 0.8% |

## Jobs by Worker Ethnicity

| | 2010 | |
|---|---|---|
| | Count | Share |
| Not Hispanic or Latino | 313,767 | 96.8% |
| Hispanic or Latino | 10,318 | 3.2% |

## Jobs by Worker Educational Attainment

| | 2010 | |
|---|---|---|
| | Count | Share |
| Less than high school | 20,716 | 6.4% |
| High school or equivalent, no college | 72,239 | 22.3% |
| Some college or Associate degree | 84,491 | 26.1% |
| Bachelor's degree or advanced degree | 78,895 | 24.3% |
| Educational attainment not available (workers aged 29 or younger) | 67,744 | 20.9% |

## Jobs by Worker Sex

| | 2010 | |
|---|---|---|
| | Count | Share |
| Male | 163,701 | 50.5% |
| Female | 160,384 | 49.5% |

## Airport Area Planning Organizational Development

Established as a municipal corporation by the Indiana General Assembly in 1962, the airport is owned and operated by the Indianapolis Airport Authority. In total, the IAA owns, develops and operates six airports in the Indianapolis area (IAA, 2013).

The Land Use Advisory Committee (LUAC) is a group of leaders from business, civic organizations, local government, education, infrastructure and land planning, and other groups from throughout Central Indiana. A series of focus groups were held to collect input from a broad range of Central Indiana constituencies, including public information sessions. Since the airport is new in of itself, potential exists to spur development around it. Landrum and Brown (L&B) conducted a comprehensive study to guide future land use and development of the Airport Authority's airport system. This plan was adopted in 2010 by the IAA Board of Directors and called LandINSight (IAA, 2013).

Since 2010, LandINSight is an Indianapolis Airport Authority (IAA) initiative designed to explore innovative ways for maximizing the potential of airport land for aviation- and non-aviation-related activities. Its outcome is ultimately expected to facilitate positive economic impacts on the community while generating additional revenue for IAA. The project will encompass more than short-term growth, however. The end result will be a long-term plan to guide future land use and development within IAA's airport system.

## Planning Goals and Objectives

The LandINSight project is to focus on making a positive contribution to employment, development, urban revitalization, and other public needs, providing maximum economic return to both IAA and local communities (LandINSight, 2012).

According to LandINSight's website, the LandINSight initiative includes three distinct phases.

**Phase 1: Determination of Aeronautical vs. Non-Aeronautical Use**
The best uses for IAA property based on market opportunities, constraints, land use, airport operational needs, and other considerations. The concepts will include potential land use scenarios and plans for all parcels.

**Phase 2: Development of Alternatives**
These alternatives will consider traffic impacts, public service demands, utility needs, aviation compatibility, environmental impacts, community compatibility, FAA requirements, development costs, market demand, absorption rates, site suitability, and revenue potential.

**Phase 3: Final Recommendations**
The resulting guidelines and plans for development, financing, land division, street and general utility layout, public improvements, noise and environmental mitigation, and more will be made in accordance with FAA regulations and applicable zoning codes and requirements.

Underlying these plans is the requirement that the airport's aviation infrastructure and resources must be preserved to service future long-term industry and regional needs. Accordingly, conceptualizing the Land Use Plan began with the property closest to the core airport elements –

the Terminal and the aeronautical infrastructure (the runways, taxiways, and aircraft apron). The airport facilities, functions, and planning constraints, regional geography, environmental considerations, engineering issues, and roadway infrastructure led to the creation of seven development Zones defined as follows:

Zone 1 The International Gateway and Commerce Center
Zone 2 The Future Growth of Aviation Activities
Zone 3 The Future Runway Expansion
Zone 4 The Regional Logistics and Business Complex
Zone 5 The Education and Technology Park
Zone 6 The Multi-Modal Transport Park
Zone 7 The Indianapolis Conservation and Recreation Complex

Overall, the seven Zones encompass 12,005 acres that can be developed over the 30 year planning period. Given the existing focus on, and regional demand for logistics, absorption of the properties potentially allocated to that business segment would be ambitious but not unrealistic. For other non-aviation uses such as retail, office, hospitality, mixed use and conservation, the success of the development effort will depend on two primary factors. The first is the creation of a multi-modal connection that can link some or all of the Zones to one another, and to the airport terminal. The second is the implementation of a theme and uses unique to the Region that will establish the airport environs as a destination for the non-travelling public (LandINSight, 2013).

The essentials of planning, phasing and creating clusters or zones will be very important to Atlanta. Indianapolis can share this lesson as a similar region with infill development around the airport.

## Marketing and Branding

Marketing for aerotropolis planning is being conducted by LandINSight, which is an extension of the IAA. The brand is starting to form and be recognized in the Indianapolis market as some news journalism has broken about the project (IAA, 2013).

## Projects

### The International Gateway and Commerce Center

Zone 1 is the main entrance to the airport. It is a high visibility site that will create the first impression of the airport and for many travelers. In that context it offers opportunities for the creation of a unique commercial and high-end office environment. This would include businesses “themed” to trade and logistics, global commerce, restaurants and shops and entertainment activities that

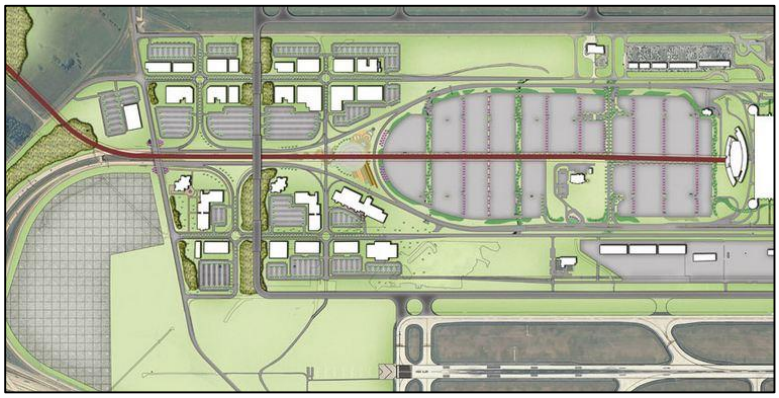


*Figure 22: Office Environment | Source: LandINSight, 2013*

reflect world cultures (LandINSight, 2013). Please see Figure 22.

**The Future Growth of Aviation Activities**

Zone 2 represents the on-airport land that has airside access and as such must be preserved for future aviation needs. The adjacent land is currently used by FedEx on the South, general aviation and an aviation support services on the East, and some mixed uses on the North. The IAA has indicated that strategically it wishes to position IND as a logistics hub (LandINSight, 2013). Please see Figure 23.

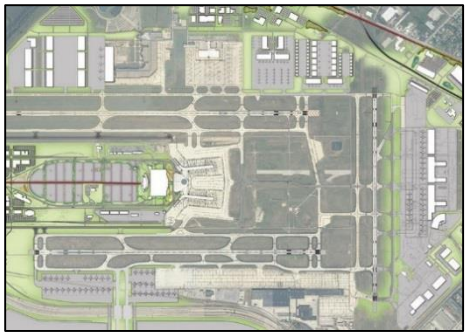


*Figure 23: Aviation Activities | Source: LandINSight, 2013*

**The Logistics and Business Complex**

With the planned development of the eastern portion of Zone 2 allocated to cargo and logistics, and Zone 3 preserved for the third runway, Zone 4 becomes highly desirable for industry focused on goods movement. Zone 4 will accommodate fast-cycle logistics, customs brokers, freight forwarders, perishables, kitting, critical parts manufacturing, e-fulfillment, light assembly, and electronic repairs (LandINSight, 2013). Please see Figure 24.

*Figure 24: Logistics Park | Source: LandINSight, 2013*

**The Education and Technology Park**

Zone 5 is sufficiently sized to accommodate in the eastern portion a substantial complex dedicated to education and training and related research and technology focused on transportation in general, and aviation and air logistics in particular. This is consistent with the overall theme of the development plan and the long-term vision of creating a major logistics operation in the Region. An important element of the development will be the establishment of a Center for Excellence in Logistics. The Complex will also be located near to the rail connector which will facilitate easy access for students, employees, and guests (LandINSight, 2013). Please see Figure 25.

*Figure 25: Technology Park | Source: LandINSight, 2013*

## Summary for Atlanta

| 2010 Metro Population | Main Planning Organization | Unique Planning Goals | Marketing/Branding Vehicle | Notable Projects |
|---|---|---|---|---|
| 1.7 million | Airport Authority led; LandINSight (sub of AA) | Determine non-airline revenue sources; create development alternatives; create recommendations for RFPs; sell land | LandINSight led though website; focus on available property | International Gateway and Commerce Center; Future Growth of Aviation Activities; Logistics and Business Complex; Education and Technology Park |

| Number of Jobs | Top Industries | % making more than $3,333 a month |
|---|---|---|
| 324,085 | Health Care; Management; Education; Other | 46.30% |

Indianapolis is similar to Atlanta in many ways. A leader in health care business and education, the city has a lot to offer, like Atlanta. This airport area is taking advantage of its existing new infrastructure – that being a new airport and modernized highway and parking systems. Atlanta should take advantage of its new international terminal in the same way by continuing to seek development at and around the airport. The plans Indianapolis has for specific zones designed for specific uses seems to be the right direction for them. Atlanta could do something very similar.

# Existing Airport Area Planning Efforts in Atlanta

## Industry Profile

Atlanta in that it is located in a pocket of interstates and within 10 miles of the core city center.

Sixty-four percent of the working population in a 10 mile radius of the airport is at the working age of 30-54.

Eighty-one percent of the workers are mostly middle class (with 46% making more than $3,333 a month), and 48 percent of the working population is white.

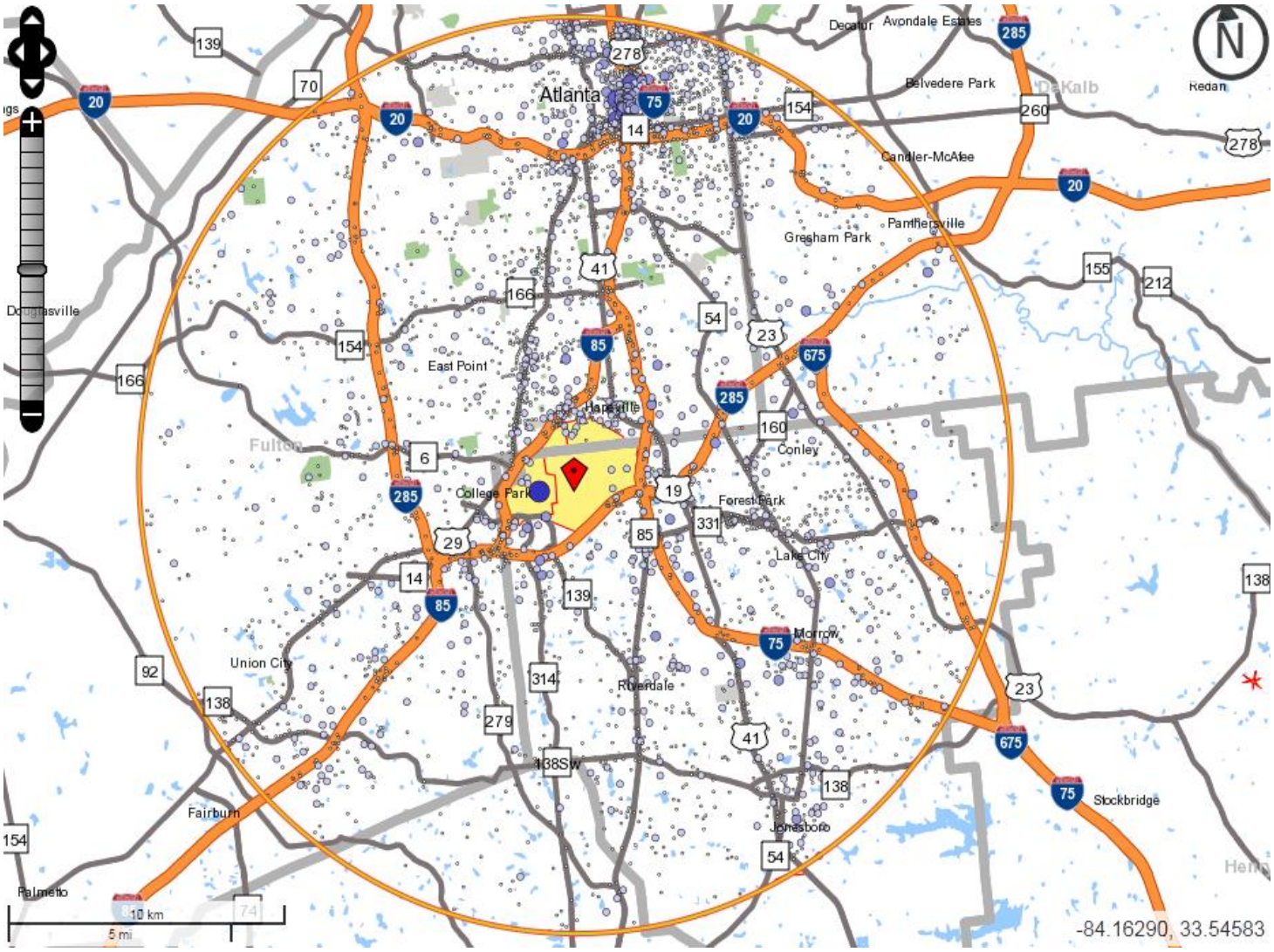
There are approximately 400,000 jobs in this area. Topping the list are transportation/ warehousing health care, and education. This makes sense as within the 10 mile radius are some major warehousing units, such as the Peachtree Industrial Blvd. area and the warehouses in the Forest Park area. Health care and education are among top employers as many state colleges, public schools and hospitals are located in Atlanta and within this area.

Development patterns where jobs are seem to be spread out from the downtown core.

The 10 mile radius conducted for this study yielded surprisingly similar results for all 4 domestic case studies Atlanta is compared to in terms of jobs, income, diversity, and industry sector. What might be most important is where these airports are located in respect to existing major infrastructure of their region and where the jobs/development patterns currently exist (shown on the first maps).

Please see Figure 26 on the following pages for detailed information.

**Figure 26: Atlanta Hartsfield Jackson International (ATL) 10 Mile Radius Analysis**



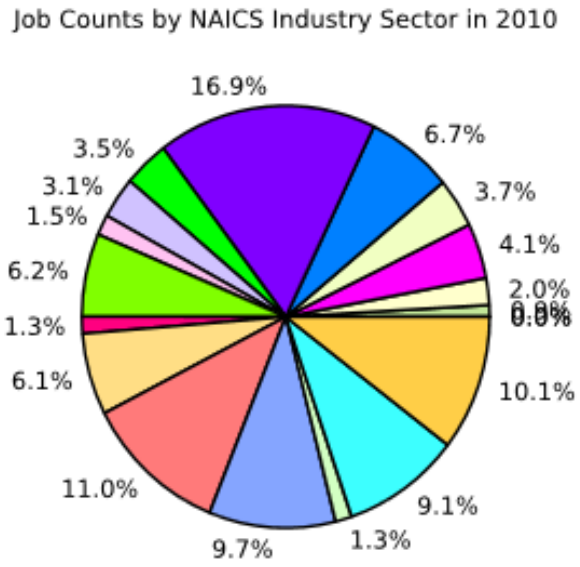

- 1 - 65 Jobs
- 66 - 1,027 Jobs
- 1,028 - 5,200 Jobs
- 5,201 - 16,432 Jobs
- 16,433 - 40,117 Jobs
- Analysis Selection

| | |
|---|---|
| Analysis Type | Area Profile |
| Selection area as | Work |
| Year(s) | 2010 |
| Job Type | All Jobs |
| Labor Market Segment | All Workers |
| Selection Area | Selection Area Shape from ATL10.shp |
| Selected Census Blocks | 10,626 |
| Analysis Generation Date | 07/26/2012 19:32 - OnTheMap 6.1 |
| Code Revision | 8f927194285c+ |
| LODES Data Version | 20120531 |

## Job Counts Within ATL 10 Mile Radius

| Job Counts by NAICS Industry Sector | 2010 | |
|---|---|---|
| | Count | Share |
| Total All Jobs | 400,373 | 100.0% |
| Agriculture, Forestry, Fishing and Hunting | 44 | 0.0% |
| Mining, Quarrying, and Oil and Gas Extraction | 22 | 0.0% |
| Utilities | 3,416 | 0.9% |
| Construction | 7,998 | 2.0% |
| Manufacturing | 16,541 | 4.1% |
| Wholesale Trade | 14,707 | 3.7% |
| Retail Trade | 26,777 | 6.7% |
| Transportation and Warehousing | 67,562 | 16.9% |
| Information | 14,004 | 3.5% |
| Finance and Insurance | 12,374 | 3.1% |
| Real Estate and Rental and Leasing | 6,072 | 1.5% |
| Professional, Scientific, and Technical Services | 24,734 | 6.2% |
| Management of Companies and Enterprises | 5,063 | 1.3% |
| Administration & Support, Waste Management and Remediation | 24,371 | 6.1% |
| Educational Services | 44,133 | 11.0% |
| Health Care and Social Assistance | 38,988 | 9.7% |
| Arts, Entertainment, and Recreation | 5,090 | 1.3% |
| Accommodation and Food Services | 36,432 | 9.1% |
| Other Services (excluding Public Administration) | 11,694 | 2.9% |
| Public Administration | 40,351 | 10.1% |

Reset Table




This data is based on workers employed within the 10 mile buffer, not where they live.

Source: U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (Beginning of Quarter Employment, 2nd Quarter of 2002-2010).

# ATL 10 Mile Radius

## Jobs by Worker Age

| | 2010 | |
|---|---|---|
| | Count | Share |
| Age 29 or younger | 74,792 | 18.7% |
| Age 30 to 54 | 256,780 | 64.1% |
| Age 55 or older | 68,801 | 17.2% |

## Jobs by Earnings

| | 2010 | |
|---|---|---|
| | Count | Share |
| $1,250 per month or less | 77,442 | 19.3% |
| $1,251 to $3,333 per month | 144,745 | 36.2% |
| More than $3,333 per month | 178,186 | 44.5% |

## Jobs by Worker Race

| | 2010 | |
|---|---|---|
| | Count | Share |
| White Alone | 194,386 | 48.6% |
| Black or African American Alone | 184,835 | 46.2% |
| American Indian or Alaska Native Alone | 1,133 | 0.3% |
| Asian Alone | 15,420 | 3.9% |
| Native Hawaiian or Other Pacific Islander Alone | 392 | 0.1% |
| Two or More Race Groups | 4,207 | 1.1% |

## Jobs by Worker Ethnicity

| | 2010 | |
|---|---|---|
| | Count | Share |
| Not Hispanic or Latino | 381,689 | 95.3% |
| Hispanic or Latino | 18,684 | 4.7% |

## Jobs by Worker Educational Attainment

| | 2010 | |
|---|---|---|
| | Count | Share |
| Less than high school | 34,531 | 8.6% |
| High school or equivalent, no college | 85,492 | 21.4% |
| Some college or Associate degree | 105,557 | 26.4% |
| Bachelor's degree or advanced degree | 100,001 | 25.0% |
| Educational attainment not available (workers aged 29 or younger) | 74,792 | 18.7% |

## Jobs by Worker Sex

| | 2010 | |
|---|---|---|
| | Count | Share |
| Male | 202,757 | 50.6% |
| Female | 197,616 | 49.4% |

The Atlanta Regional Commission has convened local leaders for over two years in the airport area to begin to discuss existing conditions and potential visions.

**Airport Area Task Force Formation**
In 2012, the Airport Area Task force was started which more formally convened elected officials, local government staffs, airport planning staff and private firms in the area around the topic. Multiple workshops have since ensued, and the south side of metro Atlanta is on the verge of planning how to best position itself for future investment and growth in a way that preserves the character of local communities, enhances areas that have been neglected, and changes the urban form, general health and overall safety of the area for the better. This task force has met over 4 times in the past year and averages 75 participants.

**Gateway Center Kickoff Educational Event**
In August 2012, the ARC, the Airport Chamber of Commerce, South Fulton Chamber of Commerce and Clayton Chamber of Commerce hosted a kickoff event to formally begin exploring this topic. ARC Chairman Doug Hooker and Georgia Institute of Technology Professor Nancey Green Leigh gave keynote presentations to educate the audience of a 100 some elected officials, planners, business owners, and residents of the area on the importance of planning for an aerotropolis.

**Sustainable Airport Area International Seminar**
In October 2012, an alliance with the Atlanta Chamber of Commerce and the Paris Chamber of Commerce brought together planners and experts from around the world to Atlanta for two days to discuss sustainable development practices around airports. This unique partnership between Atlanta and Paris proved to be invaluable as Atlanta officials, planners, educators, and citizens learn about this topic.

The seminar pointed out the similarities between Paris and Atlanta's airport areas. The challenge for the respective Airport Areas of Greater Roissy and Atlanta differs somewhat but both need to address social inclusion for roughly the same reason.

The surrounding area is an important but not fully tapped source of labor. In both cases, as air transport became more important to doing business, the well-to-do moved to the side of the city away from the airport.

As producer services became more important to the regional economies, office development followed, resulting in business districts such as La Défense and Buckhead. Now as the manufacturing facilities outlast their usefulness, these two Airport Areas can offer business relatively inexpensive 'close-in' land. The challenge the seminar was left with was to turn the respective urban transition zones into growth poles by tapping business demand for sites and facilities but, more importantly, also the demand for skilled, motivated labor.

**Dr. John Kasarda Lecture, Aerotropolis: Where We'll Live Next**
In November 2012, Dr. John Kasarda – arguably the subject matter's leading expert – gave a presentation for all interested on this topic at Georgia State University. Dr. Kasarda compared airports to routers of the physical internet of our time, and made sure to point out that Atlanta has the largest one in the world. He asked if Atlanta will finally use that card to its fullest advantage.

This was timely and insightful as the message was that aerotropolis planning isn't a one-off development project; it must be a strategy for future planning that is inherently multi-modal.

**Brookings Institute Global Cities Initiative Event, Airport and Logistics Planning**
This was another timely and insightful event as part of the April 2013 message from the Brookings Institute was that aerotropolis planning is key to the success of Atlanta's future as a Global City.

**Aerotropolis Planning Luncheon**
The Georgia Planning Association hosted a luncheon at its annual spring conference on aerotropolis planning in the Atlanta region. A panel including ARC's Doug Hooker, Georgia Tech's Nancey Green Leigh, Airport's Louis Miller and Grove Street Partner's Kevin Kern addressed the importance and benefit to intentional planning around Atlanta's airport. This included topical areas such as land use, urban design, transportation systems, environment, infill development and economic development. Planning tools, organizational development of such planning, projects underway, marketing/branding strategy, etc. were also discussed.

**Formation of Airport East and West Community Improvement Districts**
Private sector parties have started to engage in their own avenue of creating self-taxing community improvement districts immediately adjacent to the airport to foster gateway signage, cleaner aesthetics, improved safety, lure development and job creation.

# Findings and Recommendations for Atlanta

## Summary of Findings

The case studies conducted for this paper show a wide variety of government structure, demographics, financing capability, and overall development to date of this writing. Despite geographic location and regional context, the case studies are more similar than they are different.

Some aerotropolis planning organizations, while addressing public needs, were purely private in nature – meaning they were a for-profit company that controlled land acquisition and development – such as Schiphol or Paris.

Other cases were solely a public sector aerotropolis planning organization – meaning they were a strictly not-for-profit and an airport or airport authority related bureau – such as Hong Kong, Dallas, Memphis or Indianapolis.

Some were quasi-public-private aerotropolis organizations – meaning they had some formal combination of both public and private sector contribution in the official planning organization – such as Incheon or Detroit. In Detroit's case, the aerotropolis planning organization is not intentionally for profit, however they are a separate government entity that can develop land for profit.

What they all share, however, is more important. Each case, in its own way, share a common belief that planning for an aerotropolis must be intentional. In order to be successful and remain competitive, each region acknowledges that the area around a major airport must be carefully planned for; with public and private input, with shared goals, and with a shared vision.

Each case has public and private partnerships formed, allowing for both initial capital and long range planning that is mutually beneficial to the public and private sectors. All cases have either set up legislature to create an organization with the sole purpose of planning for the aerotropolis or made one work through an extension of the airport itself, the regional planning commission or a chamber of commerce.

These organizations are then also charged with marketing goals and strategies, and in some cases, acting as a real estate developer.

A summary of insights from each case are found in the following Figures 27 and 28 and in pages that follow.

| Figure 27 - Summary of Findings | | | | | |
|---|---|---|---|---|---|
| **Airport Area** | **2010 Metro Population** | **Main Planning Organization** | **Unique Planning Goals** | **Marketing/Branding Vehicle** | **Notable Projects** |
| **Amsterdam** | 2.2 million | Schiphol Group (private; publically traded) | Consumer service; Real Estate Development; Alliances and Partnerships; Environment | Schiphol Group led; Mainport focus | AirCity; CargoWorld |
| **Paris** | 12 million | ADP (private; publically traded) | Real estate development; Safety; Sustainability | HubStart Paris led through website; real estate focus | Roisspole; RoissyTech; OrlyTech |
| **Incheon** | 10 million | Developer (private) led; IIAC/South Korea (government) | Sustainable Urbanism; Transportation; Urban Design; Air-related Services; International Commerce | Developer led through website; location to 1/3 of world | AirCity; Songdo International Business District |
| **Hong Kong** | 7 million | Airport Authority (sole Airport Authority) | Redefining Business Model; Land Use Changes; Experience | Airport Authority led; economic engine for growth focus | SkyCity |
| **Dallas** | 6.5 million | DFW Airport Board (sole Airport Authority) | Develop 6,000 acres over 20 years on site; Utilize Location Between Metros; Utilize Future Rail | N/A | Southgate Plaza; Founders Plaza; Las Colinas |
| **Memphis** | 1.8 million | Memphis Chamber (government agency) | Utilize Central US location; Build Economic Base; Focus on Region; Infrastructure; Land Use Changes; Governance Changes | Chamber led through website; regional focus | America's Aerotropolis |
| **Detroit** | 5.2 million | Detroit Regional Aerotropolis (Independent public agency) | Job creation; Real Estate Development; Incentives | DRA led through future VANTAGEPOINT & SupplyChain Michigan; Incentives | $300 million in funding and 800 jobs in 2012 |
| **Indianapolis** | 1.7 million | Airport Authority led; LandINSight (sub of AA) | Determine Non-Airline Revenue Sources; Create Development Alternatives; Sell Land | LandINSight led though website; focus on available property | International Gateway and Commerce Center; Logistics and Business Complex; Education and Technology Park |
| **Atlanta** | 5.5 million | ARC (current 2013) | Umbrella Organization Utilizing Different Implementation Tools | N/A | Airport Area Task Force; CIDs forming |

**Figure 28 - Summary of Domestic Industry Profiles Within a 10 Mile Radius of the Airport**

| City | Total Jobs | Top Industries | % making more than $3,333 a month |
|---|---|---|---|
| **Dallas** | 579,620 | Retail; Waste Management; Transportation/ Warehousing; Utilities | 46.60% |
| **Memphis** | 374,076 | Transportation/ Warehousing; Health Care; Education; Retail | 39.60% |
| **Detroit** | 202,666 | Retail; Health Care; Transportation/ Warehousing; Manufacturing | 41.60% |
| **Indianapolis** | 324,085 | Health Care; Management; Education; Other | 46.30% |
| **Atlanta** | 400,373 | Transportation/ Warehousing; Education; Healthcare; Other | 44.50% |

**Insights from Amsterdam**
What Amsterdam has been able to do by placing trust in the Schiphol group to deliver a world-class airport and real estate development catalyst is something the Atlanta region could learn a great deal from. Although Atlanta's airport isn't "private," it certainly still makes strategic plans and decisions. From Schiphol, Atlanta can see the value in real estate development "inside the fence" and benefits of creating a sense of place. It is clear that businesses flock to AirportCity and that people enjoy being there.

**Insights from Paris**
Similar to the Schiphol Group, Aéroports de Paris takes real estate development very seriously. The aggressive approach to real estate makes Paris a leader in making its business strategy include development. Innovative ways to attract business are found here that Atlanta can learn from.

Partnerships and alliances are very important for ADP. Understanding when and what other organizations are best to align with to deliver first-class services is a must for Atlanta.

Hubstart Paris is also a major asset to the region. Atlanta must find a way to market the area around and connected to Hartsfield-Jackson. This marketing is only possible in concert with investment in the area, however having a third party market is something worth looking into. This might fall into a collection of chamber's responsibilities, or the creation of a whole new organization. Either way, Hubstart Paris is a great model for Atlanta to look at.

**Insights from Incheon**
Atlanta has much to learn from Incheon. Incheon clearly differentiates airport related services in its AirCity from attraction to international business and commerce in its New Songdo City, and that it has done very successfully. Atlanta should think about Peachtree Industrial and some of the other industrial areas in the area and how to create an airport services network while also catering to attracting high-end businesses and jobs. Further, urban design guidelines are essential when creating separate places. Branding is very important to these areas.

With so much occurring instantly at Incheon, it's hard not to be stunned. Atlanta isn't similar to Incheon in many ways. The city isn't creating new islands and acts that allow billions of dollars in public and private investment. However, exposure to this scale of airport related development is important from an educational standpoint, especially when trying to remain globally competitive.

Atlanta can learn that the marketing of location is huge for international commerce. Just like Incheon being 3-4 hours away from 2/3 of Asia, Atlanta is to the U.S. population. Other projects like urban design guidelines, commercial real estate opportunities available on the web, catering to business executives, etc. are all tangible projects Incheon has taken on that Atlanta can learn from.

**Insights from Hong Kong**
Goals form Hong Kong of changing the business model, understanding that land use around airport is important and creating an enjoyable and memorable experience are paramount to Atlanta. They may relate to Hong Kong in a different context, but the values Atlanta has to achieve by setting and realizing these goals are a must before planned development can occur.

Without goals like these, development around Atlanta's airport will continue to be hap-hazard and spontaneous.

Although Hong Kong is halfway around the world, there are many similarities to Atlanta in the way the airport can operate. The Airport Authority owns and operates the airport – having seemingly more freedom from government than Atlanta, but as compared to other international examples, this is not owned by a private corporation. It proves that with public-private partnership development can still be achieved in a sustainable way.

Hong Kong also placed priority for its airport to be enjoyable and sets its SkyCity up as a global entertainment district. This should be something Atlanta considers. As previously noted, Asian tourism accounts for a large portion of the rise of international travel. An average Chinese tourist spends $3,000-4,000 during one trip in NYC (Kasarda, 2012), and Atlanta should be thinking about how to attract some of that revenue.

**Insights from Dallas**

Dallas is similar to Atlanta in many ways. Atlanta can learn from DFW the benefits of being specific with airport real estate goals (i.e. develop 6,000 acres in nodes over 20 years). DFW has also placed priority in partnering with surrounding communities which is pivotal for Atlanta since there are seven municipalities and three counties immediately at or near the airport. Again, we see design standards and gateways as a priority project at DFW, similar to Hong Kong and Incheon.

Outside of real estate development goals, partnerships and design criteria, DFW has a lot of unique projects going on. Both Southgate and Founders Plaza are nodal mixed use developments on airport property. Nodal development is key here and something Atlanta should consider.

Of other importance to Atlanta is DFW's Los Colinas. The ability for this edge city to cater toward business class workers for live, work and pleasure has proven very successful for Dallas. Atlanta might want to consider its airport area as a future edge city from the downtown core.

**Insights from Memphis**

Memphis clearly has a well thought out mission, vision and set of goals. Above all else, this should be Memphis' lesson to Atlanta. The city is able to go out and find funding for both public and private projects because of the platform they have created for themselves by putting the time in to plan and set clear goals. Their regional focus is sentinel.

While Memphis is a much smaller metro (1.8 million) compared to Atlanta (5.5 million), they have done something Atlanta hasn't: airport area planning and investment. Not that the outcome needs to be the same, because it almost certainly won't be, but Atlanta needs to invest the time and resources into planning for the area its airport to the level Memphis has. They have set the domestic industry standard for detailed airport regional planning and investment.

Atlanta can also specifically learn from the power of collaboration. As mentioned, Memphis has two organizations working toward the same goals, one made up of private companies with private dollars, and one with public organizations and public grant dollars. They are able to work together to achieve both local and regional goals. This could be very beneficial to Atlanta.

**Insights from Detroit**
Detroit has formed an aerotropolis independent government agency, some might say, out of emergency. The local government and its citizens are looking for anything it can do it bring jobs and energy back to the region. Atlanta is not in a place of such immediate emergency, but it makes one wonder what could be done to make a region like Atlanta more resilient to situations that have lead Detroit into the one they face.

In a very short amount of time, Detroit and Michigan were able to let this organization not only exist but have immense power. The ADC is charged with development criteria and design standards for real estate development between DTW and Willow Run. They are to have a master aerotropolis plan. They are allowed incentives, opportunity zones and special tax areas. They are to aid in planning for future infrastructure and investment. They also must market themselves with the help of partners and experts as well as offer streamlined development review processes.

Between Michigan's Next Development Act and their launching of VantagePoint as a brand, thus far their projects have seen great initial success. If Atlanta could tap into half of these ideas in a non-emergency basis, it would serve the region well.

**Insights from Indianapolis**
The essentials of planning, phasing and creating clusters or zones that Indianapolis has done will be very important to Atlanta. Indianapolis can share this lesson as a similar region with infill development around the airport.

Indianapolis is similar to Atlanta in many ways. A Midwest leader in health care business and education, the city has a lot to offer, like Atlanta. This airport area is taking advantage of its existing new infrastructure – that being a new airport and modernized highway and parking systems. Atlanta should take advantage of its new international terminal in the same way by continuing to seek development at and around the airport. The plans Indianapolis has for specific zones designed for specific uses seems to be the right direction for them. Atlanta could do something very similar.

## Recommendations for Atlanta

The following recommendations are based on the insights learned from the case study research of this paper. They are intended for the use of the current Atlanta Airport Area Task Force.

1. **A partnership or alliance must be formalized.**
   An umbrella organization, already being discussed at current Airport Area Task Force meetings, can be unique to Atlanta and a very effective way of setting goals and plans and creating a blueprint for implementation.

   Almost every case study airport discussed partnerships and collaborating with local governments and the private business sector to get things accomplished. This step must happen before other plans can be comprehensive.

   It can be an arm of the metro chamber, of the ARC, of the airport, of the local chambers, or a new, independent alliance. This area should not be more than 20 miles in radius. Based on this study, and in Atlanta's "southern crescent" context, under a 10 mile radius is suggested. The boundary doesn't have to be a perfect radius, either. The partnership should include strategic nodes within the area.

   A new public-private alliance, leveraging private equity and public authority, may be the best balanced approach. This new organization should have a board comprised of a variety of local government and business leaders discussed below.

2. **Hartsfield-Jackson Atlanta International Airport must be a founding partner and set goals with all parties involved.**
   In most of the cases, the airport's top administration understands that airports are transcending into something much more, and that non-aviation revenue is key to remaining a globally competitive airport and region. This is key for Atlanta and thus the airport, and specifically the Department of Aviation, must have a seat at the table.

3. **Local governments and regional planning authorities must be founding partners.**
   Atlanta's airport is home to ten municipalities, two counties and three chambers. In addition to the airport, the following jurisdictions should be involved: The Atlanta Regional Commission, Fulton County, Clayton County, and at minimum the Cities of Atlanta, College Park, Hapeville, East Point, Forest Park and Riverdale. The FAA should also be included. Additional jurisdictions to consider including are the Cities of Morrow, Fairburn, Riverdale, Union City and Lake City. Nodes such as Fulton Industrial Park should also be considered.

4. **Businesses must be represented in an alliance or new organization.**
   Keeping and attracting businesses are at the core of economic development. Understanding the needs of developers and business leaders is paramount. Developers want to deliver specific proven products having financial institution support.

   There should at minimum be a rotating representation of business leaders in a new umbrella organization. These should include executives from companies that utilize the airport are the

most, such as Delta Air Lines, AirTran Air Lines, The Coke-A-Cola Company, CNN, Porsche North America, UPS, FedEx, and many others.

5. **Institutional partners must contribute to the organization.**
   This area should leverage institutions in Atlanta that are ready to serve. These include research universities like Georgia Institute of Technology and Georgia State University, local chambers of commerce, the Georgia Economic Development Department, Invest Atlanta and many others.

6. **Create a mission, vision and goals for the organization.**
   The newly formed organization must invest the time and resources into planning for the area its airport to the level Memphis, Detroit and Indianapolis have.

7. **Solicit initial capital for the organization.**
   This should include a mixture of private business capital and public grants and bonds. Examples include federal grants, potential FAA grants, state of Georgia grants, issuance of bonds and private investment. This capital should be used to hire initial staff, conduct initial studies, etc.

8. **Hire a planning consultant to conduct an existing conditions study and inventory the organization's boundary.**
   This is the first step and much of the history and foundation of this report can become a part of that study. The study should recognize that airports intrinsically require adequate land for operational areas and future aviation-related growth and development. The goal in this process is to understand the relative advantages and limitations of the commercial land.

9. **Hire a marketing consultant to create brand and hand off marketing to the organization.**
   This is thinking about how the land around an airport is unique and who would want it. Conducting a local and regional market analysis for targeted commercial uses brings into focus the market context and identifies what is possible. Chamber of Commences, the airport, and all other stakeholders must be involved. Atlanta should cater to specific markets and be intentional with who it attracts.

10. **Draft an airport regional master plan that the organization can operate from.**
    Similar to Memphis, the region should have agreed upon mission, vision and goals that compliment smaller nodes closer in to the airport. Initial studies suggested here will feed into a master plan. A master plan for this area should also compliment regional plans such as ARC's PLAN2040.

11. **Creating a phasing plan in concordance with a master plan.**
    The essentials of planning, phasing and creating clusters or zones will be very important to Atlanta once a master plan is in place. Indianapolis is on the verge of producing this full-scale document. Memphis is already there.

12. **Create target areas/nodes of focus and spread investment within organizational boundary.**
    Similar to the plazas at DFW underway or the zones planned at IND. These nodes should feed into a larger regional approach. This could be a study a hired consultant conducts. The organization might also consider continuing to engage institutional stakeholders such as Georgia Tech to conduct a studio on best targeted areas for redevelopment.

13. **Create a sense of place throughout region.**
    Urban design guidelines and development standards came up in nearly every case study. A newly formed organization must engage people by welcoming them and creating an environment people and businesses want to be in. This should be done for specific nodes, corridors, and in general branding, gateways and signage for the affected area as a whole.

14. **Conduct feasibility study on an airport city prototype.**
    This could be build off of the gateway center and/or the new Porsche site. Think Los Colinas at DFW meets Schiphol AirportCity. If walking out of the world's busiest airport gave you a world-class experience, why would people not want to live and work in Atlanta? This type of thinking will require airport executives to understand the transcendence of place at an airport means more than public art.

15. **Work with the state capital on long-term legislation that will be appropriate for the organization.**
    Setting up legislature and acts of law that allow for organizations like the Detroit ADC could equate to longer term success. Lobbying with state legislature should be an on-going goal for the newly formed organization.

16. **Continue CID approaches and incorporate other tools.**
    Tools such as LCIs, ULI TAPs, etc. as part of the alliance's toolkit and function should be encouraged. However, the organization must be careful so that the smaller tools don't overpower the larger mission and vision of the organization. CIDs are already being formed, so the new organization must act quickly to both support existing efforts while also ensuring region-wide success.

# Conclusion

This paper has looked at what four international and four domestic airports and their environs are doing to spur economic development. Each case study included information on the types of planning and organizational structure taken, as well as any policies implemented. Examples were given to provide unique methods by which airports and the communities around them collaborated on the land use, urban design and transportation planning areas as well as the tools used to achieve desired results. The branding, marketing and economic development strategies of these areas were also explored.

Existing literature on airport-area land use development was reviewed, and findings and recommendations have been given.

We can't deny it – globalization and growth around airports will happen. Tony Tyler, IATA's Director General and CEO, stated in the December 2012 that "despite the current economic uncertainty, expected demand for connectivity remains strong. That's good news for the global economy. Growing air transport links generate jobs and underpin economic growth in all economies. But exploiting these will require governments to recognize aviation's value with policies that do not stifle innovation, tax regimes that do not punish success and investments to enable infrastructure to keep up with growth."

With the busiest airport in the world, Atlanta has the largest potential of any major airport area to release the value it holds for the communities around it and for the region as a whole.

While collaboration and long range planning among stakeholders and multiple jurisdictions in this area can at times be difficult, it is essential if Atlanta wants to use the biggest card it has, the airport, to its fullest potential. As John Kasarda once said, we might be able to move individually fast, but we can more together very, very far.

# References


Aeroports de Paris. *Retrieved on February 1, 2013 from:* http://www.aeroportsdeparis.fr/adp/en-gb/professionnals/home/

Airports Council International (ACI). ACI releases World Airport Traffic Report 2010. Strong traffic rebound demonstrates industry's resiliency. *Retrieved on February 1, 2013 from:* http://www.aci.aero/aci/aci/file/Press%20Releases/2011/PR_01082011_2010_WATR.pdf

Appold, S. and Kasarda, J. (2012). The Airport City Phenomenon: Evidence from Large US Airports.

Atlanta Regional Commission (2013). *Airport Area Task Force Brochure*.

Bates, J. (2011) Land Development: What Are You Doing? *Airport World*. 16(1).

Berry (1973). *Chicago Journals. 94-3.* Suburbanization and Segregation in U.S. Metropolitan Areas. P. 592.

Business Dictionary. Greenfield. *Retrieved on April 15, 2013 from:* http://www.businessdictionary.com/definition/greenfield-site.html

Cauchi, M. (2012). Wall St. Journal. *Retrieved on February 1, 2013 from:* http://online.wsj.com/article/SB10000872396390444734804578066102538229078.html?mod=WSJ_qtoverview_wsjlatest

Charles, M. (2007). Airport futures: Towards a critique of the aerotropolis model. Futures 39(9):1009-1028.

Chosun Biz. Incheon Airport Duty Free, the world's best selection of duty-free for three consecutive years. *Retrieved on February 1, 2013 from:* http://biz.chosun.com/site/data/html_dir/2013/01/11/2013011101435.html

City Data. Detroit. *Retrieved on February 1, 2013 from:* http://www.city-data.com/us-cities/The-Midwest/Detroit-Population-Profile.html

City Data. Incheon. *Retrieved on February 1, 2013 from:* http://www.citypopulation.de/KoreaSouth-MunRegPop.html

City Data. Indianapolis. *Retrieved on February 1, 2013 from:* http://www.city-data.com/city/Indianapolis-Indiana.html

City Data. Memphis. *Retrieved on February 1, 2013 from:* http://www.city-data.com/us-cities/The-South/Memphis-Population-Profile.html

Dallas Forth Worth International Airport. Commercial Development. *Retrieved on April 15, 2013 from:* http://www.dfwairport.com/landhere/index.php

Detroit International Airport. *Retrieved on February 1, 2013 from:* www.metroairport.com/\

Detroit Regional Aerotropolis. 2012 Annual Report. *Retrieved on February 1, 2013 from:* http://detroitregionaerotropolis.com/docs/2012_Annual_Report.pdf

Detroit Renaissance (2007). Detroit Region Aerotropolis. *Strategic Development Master Plan.*

Florida, R. (2012). Up in the Air: The Role of Airports for Regional Economic Development.

Freestone, R. (2011). Spatial Planning Models of Airport-Driven Urban Development. Journal of Planning Literature; Aug2011, Vol. 26 Issue 3, p263-279.

Global Policy Forum. Defining Globalization. *Retrieved on April 15, 2013 from:* http://www.globalpolicy.org/globalization/defining-globalization.html

Greater Memphis Chamber. Economic Development: Aerotropolis. *Retrieved on February 1, 2013 from:* http://www.memphischamber.com/Economic-Development/Aerotropolis.aspx

Greater Memphis Chamber (2009). Executive Summary. *Memphis: America's Aerotropolis.*

Hong Kong Government. Census Data Index. *Retrieved on April 15, 2013 from:* http://www.censtatd.gov.hk/hkstat/srh/index.jsp

Hong Kong International Airport. Airport Authority. *Retrieved on February 1, 2013 from:* http://www.hongkongairport.com/eng/business/airport-authority/office-leasing.html

Hubstart Paris. About Us. *Retrieved on February 1, 2013 form:* http://www.hubstart-paris.com/us/

IFEZ. Incheon Free Economic Zone. *Retrieved on April 15, 2013 from:* http://www.fez.go.kr/en/incheon-fez.jsp

Indianapolis International Airport. Information and News. *Retrieved on April 15, 2013 from:* www.indianapolisairport.com

Kasarda, J. and Lindsay, G. (2011). Aerotropolis: the way we'll live next.

Kasarda, J. (2008). The Evolution of Airport Cities and the Aerotropolis. *Airport Cities: The Evolution.*

Kasarda, J. (2001). Logistics and the Rise of the Aerotropolis.

Kasarda, J. Aerotropolis Planning. *Presentation at Georgia State University.* Nov 2012.

LandINSight. About. *Retrieved on February 1, 2013 from:* http://www.landinsight.org/index.html

Metro Atlanta Chamber. Why Metro Atlanta. *Retrieved on February 1, 2013 from:* http://www.metroatlantachamber.com/

More-Wilton, M. (2007). Aerotropoli: Airport Cities.

Paris Convention and Visitors Bureau. Paris Information. *Retrieved on February 1, 2013 from:* http://en.parisinfo.com/

Rosenlund, M (2001). Occupational and Environmental Medicine, Increased prevalence of hypertension in a population exposed to aircraft noise.

RusTourismNews. Incheon International named Best Airport **Worldwide 7 years in a row.** ***Retrieved on February 1, 2013 from:*** http://www.rustourismnews.com/?p=16016

Sadler, M (2007). Charting the Future. *The Magazine of the Memphis Logistics Council*.

Schiphol Group. Company Profile. *Retrieved on February 1, 2013 from:* http://www.schiphol.nl/SchipholGroup/Company1/Profile.htm

Songdo IBD. Development. *Retrieved on February 1, 2013 from:* http://www.songdo.com/songdo-international-business-district/team/development-team.aspx

Songdo IBD. Urban Design Principles. *Retrieved on February 1, 2013 from:* http://www.songdo.com/songdo-international-business-district/why-songdo/a-brand-new-city/kpf-urban-design-principles.aspx

South Korea Government. Incheon Statistics. *Retrieved on April 15, 2013 from:* http://www.index.go.kr/egams/stts/jsp/potal/stts/PO_STTS_IdxMain.jsp?idx_cd=2729

Tarantio, J (2010). The Gateway to Milwaukee. Aerotropolis Governance Comparison and Case Study Analysis.

University of Michigan (2006). Aerotropolis, A New City: Willow Run to Detroit Metro. *University of Michigan Detroit Design Chattette Report.*

Visit Dallas. Stats and Figures. *Retrieved on April 15, 2013 from:* http://www.visitdallas.com/about/stats/

Visit Holland. Schiphol Airport Amsterdam. *Retrieved on April 15, 2013 from:* http://www.visitholland.nl/index.php/north-holland/amsterdam-north-holland/199-schiphol-airport-amsterdam

World Economic Forum (2012). Stimulating Economic Growth. *Retrieved on February 1, 2013 from:* http://www.weforum.org/issues/stimulating-economic-growth

World Trade Organization. KOREA – MEASURES AFFECTING GOVERNMENT PROCUREMENT: Report of the Panel (2000).

YIGITCANLAR, T. (2008). Understanding the Conditions for the Emergence of Airport Knowledge Precincts: A Framework for Research

Yun-Chul Hong, et al. (2002). Environmental Health Perspectives.110-2. *Effects of Air Pollutants on Acute Stroke Mortality*.